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INTERNATIONAL JOURNAL OF BUSINESS FROM M. P. BIRLA INSTITUTE OF MANAGEMENT
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M. P. BIRLA INSTITUTE OF MANAGEMENT, Bengaluru

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EDITORIAL

Welcome to the latest issue of Dharana: International Journal of Business. As we navigate through a rapidly changing world, the field of social sciences remains vital in understanding and addressing the complexities of contemporary society. This issue highlights several significant trends shaping current research. Interdisciplinary approaches are breaking down traditional academic silos, allowing for comprehensive solutions to multifaceted issues such as climate change and social inequality. The digital transformation has revolutionized research methodologies, with big data and social media analytics providing unprecedented insights into human behaviour and cultural trends. Ethical considerations surrounding data privacy and responsible technology use are now integral to this research paradigm. Inclusivity and diversity have become central, with scholars incorporating diverse perspectives, particularly from marginalized communities, to better address issues of social justice and equity. Environmental sustainability is another critical focus, as researchers explore the social dimensions of climate change and resource management. The global rise in mental health awareness has influenced research dedicated to understanding mental well-being and developing effective interventions. Globalization and cross-cultural studies examine the impact of global interactions on cultural identities and social norms, emphasizing the importance of comparative research. Technological advancements continue to shape society, with scholars investigating the societal implications of artificial intelligence, automation, and biotechnology. Understanding these dynamics is crucial for shaping policies that maximize benefits while mitigating risks. As we embrace these trends, Dharana is committed to showcasing cutting-edge research that advances our understanding of society and contributes to the betterment of humanity. We invite our readers to engage with the diverse and thought-provoking articles in this issue, pushing the boundaries of knowledge and contributing to a more equitable, sustainable, and understanding world.

My Favorite Books

Er. N. Ramanuja

Reading has always been an integral part of my life, a habit nurtured since childhood by influential figures and cherished memories. This narrative takes you back to my early years, exploring how my reading journey began and the writers who left an indelible mark on my literary preferences.

During these visits to the college library with my aunt, I discovered the three volumes of “Raja Malaya Simha” by Sri Srinivasacharya, the Kannada version of ‘The Count of Monte Cristo’ by Alexandre Dumas. My aunt encouraged me to note down interesting and inspiring sentences, leading to my first favorite quote, which inspires me till date:

“Until the day when God will deign to reveal the future to man, all human wisdom is contained in these two words — ‘Wait and hope.’”

This experience sparked my interest in English classics. My sister further fuelled this interest by giving me “Far from the Madding Crowd” by Thomas Hardy. I became so engrossed in the novel that it transported me to the imaginary world of Wessex, making me an ardent admirer of Hardy. I later learned that famous novelist R. K. Narayan was inspired by Hardy to create his own fictional town, Malgudi!

Growing up in a house frequented by one of India’s most beloved authors, R. K. Narayan, is a cherished memory for me. The friendship between R. K. Narayan and my uncle, Dr. H. S. Biligiri was more than just a casual acquaintance. Their shared interests and mutual respect for each other’s work created a bond that brought Narayan frequently to our home. In his autobiographical work ‘My Dateless Diary’, R. K. Narayan makes a notable mention of Dr. H. S. Biligiri. R. K. Narayan’s father was a schoolmaster in the DURGIGUDI extension of Shivamogga, which was probably the inspiration for R. K. Narayan to name his fabled town ‘MALGUDI’. As far as my knowledge goes, this mythical town Malgudi is a combination of MAL from Malenadu and GUDI from Durgigudi.

I am aware that reading for pleasure has profound benefits on a child’s education, social and cognitive development, well-being, and mental health. American writer and illustrator Tomie de Paola aptly said, “Reading is important because if you can read, you can learn anything about everything and everything about anything.” Unlike videos, which have limitations, reading allows for a deeper exploration of subjects, fostering a greater understanding and retention of knowledge.

Reading also enhances empathy. When we read a book, we get absorbed in the story, experiencing the lives and emotions of the characters. This ability to empathize with fictional characters translates to real-world empathy, helping children understand and relate to the emotions of others.

In this context I must mention the impact the Dr. Shivarama Karantha’s book ‘Marali Mannige’ had on me. This again was my sister’s text book in her BA course. The travels and travails of the protagonist in the novel influenced

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me for changing thinking patterns in various generations spread over. Consequently, such reading significantly contributes to social development, more so in the case of managers in MNCs who will have to manage transnational employees coming from various cultures.

Reading has profoundly influenced my social awareness and professional decision-making. Several books, such as “Madiddunno Maharaya” by Sri M. S. Puttanna, have instilled in me the understanding of the concept often referred to as ‘karma comes back.’ This idea has shaped my ethical framework and personal philosophy.

Dr. Shivarama Karantha’s books have been particularly enlightening, offering deep insights into the social structure and the diverse aspirations of people from different strata of society. These narratives have broadened my perspective on social and cultural outlooks, which proved invaluable during my watch marketing days. While novels in vernacular helped me largely in understanding our own people, the empathy created by reading novels of English, other European and American authors helped me largely in understanding international customers. Understanding the varied backgrounds and behaviours of people helped me craft more inclusive and effective marketing strategies. But one big lesson I learnt from my readings is that people could be different, their countries could be different but the sentiment is always same.

Moreover, these literary experiences have heightened my sensitivity towards the behaviours and thoughts of individuals, as vividly depicted in numerous novels. This knowledge has been instrumental in my role as a manager, allowing me to consider the overall impact of my decisions on all stakeholders. It has fostered a more empathetic and holistic approach to leadership and management.

I am grateful to all those who nurtured my love for reading, a passion that remains with me to this day. Reading has not only enriched my knowledge but also shaped my personality and social understanding. The writers who captivated me in my early years continue to inspire me, reminding me of the timeless power of literature.

I will continue to share my trust with literature and the impact they had on my professional life, at later stages of my life, in the days to come.

A Comparative Analysis of Traditional vs AI Drive Recruitment Methods

Akhila S. Hegde and Shushree Chinmayee Dwibedy

Abstract

This study presents a comparative analysis between traditional vs AI-driven recruitment methods. It focuses on key areas such as efficiency, benefits, cost-effectiveness and candidate experience. Further, the research will investigate how each method impacts recruitment outcomes. The research methodology implemented in this study involves online surveys, interviews, and analysis of recruitment data from different industries to provide a comprehensive understanding of the topics. The result shows how companies, which also includes start-ups and innovative companies are using both AI-based and traditional methods to make the recruitment process easy and to attract, assess and acquire talent effectively. Further, the report discusses the future recruitment processes, glancing at the possibility of hybrid approaches that merge the advantages of both AI-based and traditional recruitment methods. Altogether this paper provides the perspective of the efficiency, advantages, and candidate experience on the traditional and AI-driven recruitment methods.

Keywords: AI-Driven Recruitment, Artificial Intelligence, Comparative Analysis, Interview, Recruitment

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1. Introduction

In the modern business world, recruitment plays a role in the success of organizations attracting, evaluating, and securing talent. Over time, the methods used in recruitment have evolved significantly due to technological advancements and changes in talent acquisition strategies. The traditional approaches to recruitment, deeply rooted in old practices, now face the transformative impact of AI-driven techniques, signalling a new era of innovation.

This study aims to compare traditional recruitment methods with AI-driven approaches, focusing on their effectiveness, advantages, cost-efficiency, and impact on the candidate experience. By investigating key aspects of both methods, the research seeks to provide insights into how they influence recruitment outcomes and organizational dynamics. The motivation behind this research stems from recognizing recruitment's critical

role in organizational success. As businesses strive for a competitive edge in a tough market, the ability to attract and retain top talent becomes crucial.

By examining the effectiveness of traditional and AI-driven recruitment methods, this study aims to offer actionable insights to organizations to optimize their talent acquisition strategies and strengthen their workforce.

Traditional recruitment methods are entrenched in familiar practices like job postings, resume evaluations, interviews, and reference checks. In contrast, AI-driven methods leverage artificial intelligence and machine learning algorithms to streamline processes, improve decision-making, and extract valuable insights from extensive data. This study seeks to analyse the pros and cons of both approaches, shedding light on their impacts on recruitment results.

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Using a comprehensive research methodology that includes online surveys, interviews, and data analysis from various industries, this study strives to provide a thorough examination of the subject matter. By integrating findings from diverse sources, the goal is to extract key insights and identify patterns that illuminate the recruitment landscape. Ultimately, this research aims to present stakeholders with a comprehensive view of the efficiency, benefits, and candidate experience associated with traditional and AI-driven recruitment methods. By examining the past, present, and future of recruitment practices, this paper intends to equip organizations with the knowledge and foresight needed to navigate the complexities of talent acquisition in an ever-changing environment.

1.1 Efficiency in Recruitment

Efficiency in recruitment refers to the ability to simplify procedures, lessen time-to-fill positions, and enhance resource application. Custom methods might contain manual activities such as examining CVs and organizing interviews, whereas AI-guided techniques capitalize on automated systems to hasten these endeavours. Assessing proficiency encompasses the time and workload demanded to detect, filter, and retain candidates, coupled with the ultimate productivity of these courses in attending to organizational specifications.

1.2 Cost Efficient Recruitment

Cost-efficient recruitment Connote the financial investment allocated to sourcing, procuring, and boarding fresh team members. Familiar procedures may necessitate expenditures related to employment ads, recruiter fees, and administrative tasks, in contrast to AI- AI-prioritised techniques necessitating expenditures on system setup and tutelage.

Analysing cost efficiency comprises pondering on the parcelled cost of engagement activities about the excellence and quantity of recruits elicited, as well as its extended impact on organizational performance and prosperity.

1.3 Perks of Personnel Acquisition

Perks in recruitment Processes comprise the laudable product achieved through successful personnel

acquisition strategies. Old-fashioned approaches thrust on linking personal networks, professional connections, and subject intimate candidate evaluations, whereas AI-fuelled procedures patron algorithmic consideration, forecasting, and data analytics. Evaluating merits covers assessing factors such as hire calibre, diversity initiatives, emblematic impression, and adjustability to fluctuating marketplace conditions and labour trends.

1.4 Employment Seeker Experience

Employment seeker experience in recruitment circumscribes the understanding, interrelations, and gratification grades of candidates throughout the selection process. Practices anchored on live face-to-face dialogues, individualized communications, and human contact points, defer to AI directive approaches emphasizing dispatch, commodity, and expandability. Measuring employment seeker experience includes surveying aspects like interaction effectiveness, disclosure, equity, and prevailing judgment.

2. Review of Literature

Albaroudi et al. (2024). This study comprehensively reviews Artificial Intelligence (AI) techniques designed to address algorithmic bias in job hiring. As more businesses adopt AI for Curriculum Vitae (CV) screening, efficiency in the recruitment process improves. However, this shift also exposes the process to potential biases, which can negatively impact organizations and society. This research aims to analyze case studies of AI in hiring to highlight both successful implementations and instances of bias. Additionally, it evaluates the impact of algorithmic bias and explores strategies to mitigate it. The study employs a systematic review of existing literature and research focused on AI techniques used to reduce bias in hiring. The findings indicate that correction of the vector space and data augmentation are effective Natural Language Processing (NLP) and deep learning techniques for mitigating algorithmic bias in hiring. These results highlight the potential of AI to promote fairness and diversity in the hiring process through the application of these techniques.

Odili et al. (2024). This paper reviews the use of AI in recruitment over the past 5 years, focusing on its role, adoption, and potential risks. It emphasizes the

importance of literature reviews for theory development and identifies areas for further research. The review also emphasizes the need for precise keywords in literature searches.

Nyathani (2022). The paper emphasises the importance of ethical practices in AI algorithms to prevent discrimination against candidates. It recommends regular audits, training for the HR Professionals, monitoring the key metrics, and transparency with candidates. The paper highlights the transformative potential of AI-powered recruitment and the evolving role of HR Professionals in an AI-driven future.

Pooja and Sivakanni (2024). AI is transforming recruitment, offering both opportunities and challenges for Human Resources (HR) professionals. This study examines AI's role in modern recruitment and its implications for HR. AI enhances recruitment efficiency, streamlines processes, and improves decision-making with automated resume screening, candidate sourcing, and predictive analytics. AI-driven chatbots and virtual assistants also improve candidate engagement with instant, personalized interactions. However, AI adoption poses challenges, including ethical concerns about data privacy, algorithmic bias, and fairness. HR professionals must develop skills in data analysis, algorithm management, and ethical AI usage. This study identifies the opportunities and challenges of AI in HR through surveys analyzed using chi-square, correlations, and ANOVA tools.

3. Research Design

3.1 Objectives of the Study

1. To compare the efficiency of AI-driven recruitment methods with manual methods.
2. To investigate the time savings, and benefits, which are achieved through automation.
3. To assess the transparency in recruitment methods.
4. To examine how AI can mitigate the bias.
5. To assess the cost-benefits while implementing the AI-driven methods, compared to the manual method.

3.2 Data Collection

With the growing trend of AI incorporation in recruitment procedures, this study aims to scrutinize the functionalities of these AI-driven techniques compared to conventional techniques. The researcher intends to evaluate these methods based on their productivity, advantages, affordability, candidate experience and outcomes on recruitment results.

3.3 Data Collection

Data was amassed from 75 assorted workers with ages ranging from 21 to 30 via a mixture of online surveys and a structured questionnaire. Out of which 68 responses were retained after cleaning the data, while seven outliers were cleared off.

Data was initially collated by identifying the intended workers and making contact through the conduction of internet surveys and architecting a structured questionnaire. The inquiries were predicated upon 4 focal points. The first focal point was on the productivity of recruitment, the second on candidate experience, the third on cost efficiency, and the fourth on a general aspect. The data assembly process ensued close to a week and was later analysed using an unspecified method.

3.4 Method for Analysis

The chi-square test is used to analyse the data. Chi-square is a statistical test used to compare the observed results with the expected results. This alternative method aids in ascertaining patterns, differences and associations between the variables.

3.5 Working Hypotheses

1. H_0 : Perceived efficiency and the usage of AI recruitment tools are independent of each other.
2. H_0 : Candidates' positive experiences and the usage of AI recruitment tools are independent of each other.
3. H_0 : Perceived cost and the usage of AI recruitment tools are independent of each other.

3.6 Scope of the Study

1. **Efficiency Comparison:** It investigates the efficiency of traditional methods (manual screening, interviews) versus AI-driven methods (automated screening, data-driven insights). Consider time saved, accuracy, and resource allocation.
2. **Benefits Assessment:** It analyses the benefits of each approach. Traditional methods focus on personal interactions, relationship-building, and cultural fit assessment. For AI-driven methods, emphasize speed, objectivity, and scalability.
3. **Cost-Effectiveness:** It explores the cost implications between traditional and AI-driven methods. Traditional methods may involve more human resources, while AI platforms have initial setup costs but can save time in the long run.
4. **Candidate Experience:** It evaluates how each method impacts candidates.

3.7 Limitations of the Study and Scope for Further Research

1. **Sample Bias:** This study's findings may be influenced by the industries or companies surveyed.
2. **Generalizability:** Findings of this study may not be applied universally and may differ from organization to organization.

3. **Data Availability:** Access to recruitment data from various sources is essential. Limited data may affect the depth of analysis.
4. **Ethical Considerations:** Address potential biases in AI algorithms and their impact on fairness and diversity.
5. **Dynamic Landscape:** Recruitment practices evolve rapidly. Acknowledge that findings may change over time.

4. Data Analysis

Researchers have used the primary data to showcase the evidence to prove the working hypotheses of the study. In this study, results have been derived from the weighted average test and Chi-square test to prove the researchers' claim.

Table 1 showcases the responses of employers regarding the efficiency of AI recruitment methods. Respondents have shared their opinions towards AI recruitment methods in reducing time consumption and processing the candidate profile. It is observed that 58 respondents collectively provide a strong agreement on time-saving through AI recruitment while, they do agree that the screening made through AI is reliable and eligible for shortlisting potential candidates.

To understand the perspective, experience, and opinions of job seekers towards the AI method of finding and

Table 1. Responses towards perceived efficiency of AI recruitment tools

Perceived efficiency of AI recruitment tools								
Particulars	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Total	Weighted average	Result
AI's process saves time	2	1	0	29	26	58	4.31	Strongly agree
AI's automated screening process is reliable	3	4	24	26	1	58	3.31	Agree

Source: Primary data

Table 2. Responses of candidates towards AI recruitment tools

Candidate experience with the usage of AI recruitment tools								
Particulars	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	Weighted average	Result
AI can mitigate bias	2	5	18	26	7	58	3.53	Agree
AI's recruitment process is transparent	5	0	0	41	12	58	3.95	Agree
AI's interactions during the interview positively influence the candidate's perception	5	3	0	27	23	58	4.03	Agree

Source: Primary data

Table 3. Responses towards perceived cost of AI recruitment tools

Perceived cost of using AI recruitment tools								
Particulars	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	Weighted average	Result
AI reduced costs with manual screening	4	2	0	34	18	58	4.03	Agree
Investment in AI tools is justified by benefits gained in the recruitment efficiency	2	2	0	34	16	54	4.11	Agree

Source: Primary data

applying for a job, researchers have collected data from 58 job-seekers who are currently serving at various institutes and corporate bodies. Respondents were questioned on three important aspects of recruitment such as unbiased method of recruitment, transparency, and positivity. With the weighted average method of analysis, it was observed that the candidates who had applied to various designations using AI tools found them to be unbiased and transparent in the proceedings. The respondents also share positive feedback on the latest technology of smart recruitment processes using AI.

The cost perspective of AI recruitment tools suggests that AI has reduced the consumption of cost and time to a significant level. Introducing AI into recruitment

procedures such as background verification, CV scanning, profile screening, identifying matching skills, etc. has become much simpler. It has reduced the burden of a traditional HR team wherein, the HR team has to screen, verify, and approve the status of a bulk number of applications to any designation. AI, on the other hand, is equipped with a database to verify the details of a particular applicant. It is also equipped with psychometric analysis, wherein the algorithm detects the qualification, experience, key skills provided, etc. to conclude whether a candidate is eligible to apply for the given designation. The results showcased in Table 3 provide evidence for this claim by stating that AI implementation has cut down the cost of recruitment and has also improved the efficiency of the system.

Table 4. Chi-Square analysis for perceived efficiency of AI recruitment tools

Chi-Square Value					
Perceived efficiency of AI recruitment tools					
Particulars	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
AI's process saves time	0.1	0.9	12	0.08	11.57
AI's automated screening process is reliable	0.1	0.9	12	0.08	11.57
Chi-Square Value					49.31

Source: Primary data

Degree of Freedom (df)	4
Chi-square value	49.31
Significance level	0.05
Critical value	9.488

Table 5. Chi-Square analysis for candidates' positive experience with AI recruitment tools

Chi-Square Value					
Candidate experience with the usage of AI recruitment tools					
Particulars	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
AI can mitigate bias	1	2.04	24	0.91	3.5
AI's recruitment process is transparent	0.25	2.67	6	2.98	0.29
AI's interactions during the interview positively influence the candidate's perception	0.25	0.04	6	0.6	5.79
Chi-Square Value					56.31

Source: Primary data

Degree of Freedom (df)	8
Chi-square	56.31
Significance level	0.05
Critical value	15.507

Table 6. Chi-square analysis for perceived cost of AI recruitment tools

Chi-Square Value					
Perceived cost of using AI recruitment tools					
Particulars	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
AI reduced costs with manual screening	0.26	0	0	0.04	0.01
Investment in AI tools is justified by benefits gained in the recruitment efficiency	0.39	0	0	0.04	0.15
Chi-Square Value					0.9

Source: Primary data

Degree of Freedom (df)	4
Chi-square	0.9
Significance level	0.05
Critical value	9.488

H_0 : Perceived efficiency and the usage of AI recruitment tools are independent of each other.

From the details provided in Table 4, it is clear that the calculated chi-square value stands at 49.31. At a 5 % level of significance, the chi-square value for 4 degrees of freedom arrives at 9.488. From the given information, it is evident that the calculated chi-square value (49.31) > the critical value (9.488). Therefore, the null hypothesis is rejected and concluded that perceived efficiency and the usage of AI recruitment tools are dependent on each other. Since these attributes are dependent on each other, the results obtained in Table 1 support that the usage of AI recruitment tools exhibits efficiency in recruitment processes.

H_0 : Candidates' positive experience and the usage of AI recruitment tools are independent of each other.

According to Table 5, the total obtained chi-square value for two attributes namely the candidate's positive experience and the usage of AI recruitment tools, is 56.31. At a 5% level of significance, the chi-square value

for 8 degrees of freedom is 15.507. Since the obtained value of 56.31 is greater than the critical value, the null hypothesis is rejected and concluded that candidates' positive experience and the usage of AI recruitment tools are dependent on each other. Additionally, the weighted average results showcased in Table 2 prove that candidates possess positive feedback towards their experience with the usage of AI recruitment tools.

H_0 : Perceived cost and the usage of AI recruitment tools are independent of each other.

Table 6 reveals that the obtained chi-square value for the given case is 0.9. At a 5% level of significance, the chi-square table value for 4 degrees of freedom stands at 9.488. Since the obtained chi-square value is higher than the critical value, the null hypothesis is rejected and concluded that perceived cost and the usage of AI recruitment tools are dependent on each other. Additionally, the results of Table 3 conclude that the perceived cost of usage of AI recruitment tools is not higher than the traditional cost of recruitment.

5. Findings

The findings of this study are majorly discussed in terms of efficiency, candidate experience, and perceived cost. Based on these parameters, the findings of the study are as follows:

1. Efficiency

Based on the respondents' perception, AI-driven recruitment methods save time which ensures organisations benefit from streamlined hiring.

Automated screening process - From the surveys it is evident that the automated screening process is reliable. The performance and satisfaction levels of employees and employers support this claim.

2. Candidate experience

Bias - The study revealed that AI can help in mitigating bias, and the majority of the respondents agree with this fact.

Transparency - The majority of the respondents trust that the recruitment process through AI-driven methods is more transparent and less biased compared to the traditional tools of recruitment.

Positive interaction - The majority of the respondents agree that personal interaction during the interview shall enhance the candidate experience.

3. Perceived cost

Respondents collectively agree that investment in AI tools is justified by the recruitment benefits enjoyed by organisations. It highlights that AI can be a valuable tool in enhancing the efficiency of the recruitment process, especially for tasks like resume screening and initial candidate matching. However, manual enhancements are required wherever necessary for maintaining trust and ensuring the tailored needs of individual organizations.

6. Conclusion

The study highlights how important it is to combine conventional human-centred recruiting methods with

AI-driven solutions. Based on the empirical results obtained from online surveys and a comparison with existing research, we can conclude that AI offers significant benefits, including increased productivity, and impartiality in decision-making, through automation. It performs exceptionally well in jobs like data analysis, candidate variable evaluation, and first screening, which simplifies procedures and boosts transparency. Still, in all this technical progress, the human touch is priceless. Conventional approaches are excellent in building relationships, establishing trust, and giving prospects a tailored experience. To gain a better grasp of their abilities, backgrounds, and organisational culture, candidates frequently value their contacts with human recruiters. From the test results, it can be concluded that with AI-driven recruitment methods efficiency, positive candidate experience is achieved, and overall recruitment outcomes are enhanced. However human recruiters will continue to play a crucial role in the final stage of recruitment, where complex decision making and interpretation are required. The future lies in a collaborative approach where AI and human recruiters work together.

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Predictive Analytics and Natural Language Processing: Enhancing Leadership Decision-Making

A. Divya Laxmi and K. M. Chandana

Abstract

Artificial Intelligence has a big influence on leadership and decision-making in the twenty-first century. This abstract explores the beneficial relationship between Artificial Intelligence (AI) and leadership. This paper examines how AI supports decision-making by offering predictive analytics and actionable insights (effective decision-making). A key component of utilising AI for decision-making is natural language processing, which facilitates seamless interaction between humans and machines through semantic comprehension and sentiment analysis (understanding the emotion behind the message). Moreover, predictive analytics makes use of AI algorithms to predict possible outcomes and forecast future trends, reducing risk and maximizing resource utilization. Leaders may reduce risk, allocate resources more efficiently and promote innovation by utilizing AI. Just as Chanakya's Arthashastra influenced administration in ancient India, Artificial Intelligence (AI) is fast emerging as a crucial advisor and guide for leaders today. The governance and strategy tents of Arthashastra are in line with contemporary AI-powered leadership, which supports well-informed choices based on thorough data analysis. A leader must carefully consider how their emotional intelligence, morality and real-world experience compare to the guidance given by AI. The most effective modern leaders will blend artificial intelligence's computational proficiency with human traits like wisdom, empathy and judgement. This research draws on both modern AI developments and age-old wisdom from writings like *Arthashastra*, emphasising the necessity for leaders to embrace AI as a strategic ally in decision-making processes.

Keywords: Artificial Intelligence, Decision-Making, Leadership, Natural Language Processing (NLP), Predictive Analytics

JEL Classification Code: Z19

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1. Introduction

Artificial Intelligence (AI) has been the buzzword in the recent years. AI includes an enormous range of related concepts such as Machine Learning, Machine Intelligence and Cognitive Computing and such technologies can make independent decisions from human beings without their direct intervention. Decision-making skills are an important attribute for a leader. This skill is an important

driving force for successful leaders to execute their ideas for growing their organisation and achieving their objectives.

Predictive Analytics and Natural Language Processing (NLP) are essential tools for improving the decision-making of leaders. These programs analyse vast amounts of data and identify significant patterns and trends, providing insightful information. Leaders can obtain

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a more profound comprehension of market dynamics, client behaviour and other crucial elements that influence their decision-making process by utilising predictive analytics and natural language processing. By predicting future patterns and outcomes, predictive analytics helps decision-makers make data-driven choices. Proactively addressing obstacles and seizing opportunities is made possible for leaders by predictive analytics, which can be used to forecast customer requests, financial market volatility or operational performance.

However, by gaining insights from unstructured data sources like social media interactions, consumer reviews and internal communications, NLP plays a critical role in improving leadership decision-making. NLP analyses sentiment, context and patterns in natural language to aid leaders find vital information that might not be at once clear using more conventional data analysis techniques. Leaders may make more strategic and well-informed decisions, which will eventually propel their companies toward higher success, by incorporating predictive analytics and NLP into their decision-making processes.

2. Review of Literature

Larson and Watson (2013). This study compares NLP and sentiment analysis in extracting knowledge from unstructured social media data. The results show NLP outperforms sentiment analysis in detecting issues and extracting valuable information. However manual analysis may be more beneficial for decision-making. The study suggests that NLP-based analytics for organisations is a reliable approach.

Xiong (2022). Here, in this paper, the researchers bring out the need to adapt to new leadership theories and incorporate AI to enhance productivity. It has been stressed that AI can automate tasks but cannot replace human-centric skills. Leaders should consider human and social factors alongside AI for decision-making, emphasizing soft skills in Leadership.

Peifer et al. (2022). This paper discusses the challenges and requirements for leaders and leadership of AI implementation with an emphasis on the need for a human-centric approach and a supportive corporate culture. It throws light on the importance of leaders

moulding the strategic transformation process, developing goals and adapting to changing requirements of competency.

Mohammed (2020). The paper discusses the importance of Human Resource (HR) analytics in predictive decision-making in organizations. It reviews existing literature and makes note of the role of statistical data analysis, machine learning and AI in predicting future HR results. The paper also gives importance to the need for case studies and IT infrastructure for the implementation of effective HR analytics implementation.

Karthikeyan (2017). This social environment has evolved, causing leaders to adapt to innovative technologies, values and globalization. The complexity of the unfamiliar environment presents challenges, needing vertical leadership development. This paper also emphasises the need for new strategies to lead effectively in the twenty-first century as traditional leadership methods have been outdated.

Rehman and Waheed (2012). The study investigates the relationship between transformational leadership styles and decision-making styles. It focuses on the moderating role of emotional intelligence. Data from 113 respondents was collected and regression analysis was used to measure the relationship. Results showed that transformational leadership styles strongly predict rational and dependent decision-making styles, weakly intuitive and spontaneous styles

3. Research Design

A structured questionnaire created and distributed through Google forms was used to collect data for this study. The questionnaire was targeted at employees across various industries to gather insights into their experiences with predictive analysis and NLP in decision making. A varied samples of viewpoints was provided by a total of 40 respondents. To ensure a speedy data collection process and a significant set of data analysis, convenient sampling was used to rapidly collect responses from employees who were able and willing to take part.

Statistical techniques were used in the data analysis process to extract insightful information from the gathered answers. Furthermore, qualitative analysis was

carried out, mainly utilising Likert scale responses, to find the degree to which the application of predictive analytics and natural language processing influences data-driven leadership decision-making. A thorough assessment of how these technologies improve decision-making processes across a range of industries was made possible by this multifaceted approach.

3.2 Research Gap

After a thorough review of literature, the gap that has been identified is that, there is lack of comprehensive studies exploring the combined utilisation of predictive analytics and Natural Language Processing for decision making especially by the top management in the organisations. Another gap that this paper addresses is the practical challenges and barriers in implementing predictive analytics and NLP in organisation particularly in the leadership level.

3.2 Objectives of the Study

- To evaluate how data-driven approaches fit into the current leadership decision making process.
- To examine how predictive analytics can be used to make informed decisions made by leaders.
- To analyse how effectively Natural Language Processing methods extract useful information from textual sources.

3.3 Problem Statement

The problem addressed in this research is the limited understanding and application of predictive analytics and NLP in enhancing leadership decision-making processes. Despite their potential, there is a lack of comprehensive studies exploring their combined impact on leadership effectiveness.

4. Findings and Suggestions

In findings and analysis indicates that the respondents are 35% female and 65% male. Majority of the respondents fall in the category of 20 to 25 years (60%). And the decision-making process exhibit 50% centralised, 20% decentralized and remaining 30% collaborative.

4.1 Analysis for Data-Driven Approach

1. 50 % of the respondents' organisations have a centralised decision making body. The decision-making process relies on various data sources such as financial data, customer data, market research data and human resource data.
2. The data driven approach used for integration into leadership decision making, 30% respond that data visualisation techniques is used for decision-making, 27.5% agrees that they use it for data driven performance metrics or KPI's, 25% agree that data analytics tools or software and the remaining 17.5% agree that data driven approach is integrated to regular data driven discussion/meetings.
3. The benefits for the leaders from utilising data driven approaches increased efficiency, accurate decision making and better alignment with organizational goals. This is possible through mitigation of risks and forecasting using predictive analytics.

4.2 Analysis for Predictive Analytics

1. Predictive analytics is not the primary factor for decision making and it is considered along with other factors. Further research can be done on what the other factors are and how it is related in decision making. 42.15% of the respondents do not readily accept that accurate forecast is done using predictive analytics. Further, only 32.5% of the respondents use predictive analytics sometimes for informed decision making.

4.3 Analysis for Natural Language Processing (NLP)

1. The concept of NLP is moderately familiar to 45% of the respondents. It is also analysed that 57.5% of the respondents neither agree nor disagree that NLP is effectively used for extracting information from textual sources and this method is not effectively used in the organisations.
2. The extent to which NLP is used only within the organisation is to analyse documents and reports,

customer feedback and reviews. Here, the aspect of sentiment analysis also is determined. Due to the underutilisation of NLP, 47.5% of respondents neither agree nor disagree on its accuracy, despite its potential. Therefore, there is no clarity established on the effective utilisation. Though NLP is an upcoming and new concept, the benefits derived through it are experienced by 50% of the respondents.

4.4 Suggestions

1. Pilot programmes and case studies should be conducted by organisations to investigate the usefulness and advantages of NLP and predictive analytics in decision-making. These programmes may offer insightful information and practical lessons for wider application.
2. A data-driven culture must be fostered in order for these technologies to be successfully integrated. Leaders ought to develop an attitude that prioritises evidence-based decision-making and support the use of data and analytics in decision-making procedures.
3. Organisations should keep up with the most recent innovations and consistently look into new tools and techniques that could improve their decision-making processes, given the rapid breakthroughs in AI and analytics.

5. Conclusion

Through this study it is found that Predictive Analytics and Natural Language Processing are relatively new for multiple companies and the decision-making body, i.e., leaders use data-driven approaches for visualising data and making decisions accordingly. Increased efficiency is the necessary benefits availed from integration of data-driven approaches for the leaders to take right decisions and hence it should be encouraged by multiple companies to start using Predictive Analytics and NLP to have efficient aide in enhancing decision-making of leaders in the organisation.

It is an appreciable effort by multiple organisations to create awareness about Artificial Intelligence and its benefits that enhances employee's productivity. With AI involved in every aspect of our lives, including minimal jobs, it is always better to equip and train employees and potential leaders with relevant skill sets that enhance the integration between humans and AI.

It is found that while these technologies offer benefits like improved decision accuracy and resource allocation, challenges like data quality issues and resistance to change persist. The study suggests investing in data quality improvements, technical training, and fostering a data-driven culture. It also emphasizes the need for future research to expand sample sizes and explore qualitative aspects.

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The Influence of Product Development and Innovation on Capturing Market Dominance

G. Mahesh

Abstract

New product creation is the primary calculate of financial progression laying out the monetary strategic advantage. The life cycle of products turns out to be moderately concise and it patterns to be more limited step by step. It implies that innovation turns into the key driver force in the economy. The innovation level is not adequate in Latvia. Perhaps of the most significant member in the innovation business will be business hatcheries in Latvia. This examination concentrate on burdens the job of assessment of each phase of innovation processes. The creators present an original strategy for the assessment of innovation processes stage by stage. This philosophy permits to distinguish the key difficulties that repress innovation. This technique permits to make substantial thoughts for improving the imaginative environment in the country. The consequences of the overview were broke down using the Likert model through SPSS examination, as it is the situation with this type of analytical exploration. Likewise, proposals and conclusion were made in light of the discoveries, and ends were delivered focusing on the fundamental worries of the review.

Keywords: Capturing Market Dominance, Customer Needs, Globalization, Marketing, Market Share, New Product Development, Product Innovation, Product Life Cycle, Product Quality, Promotions, Test Marketing

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1. Introduction

Any nation may advance and gain an advantage in the global marketplace by investing in the research and development of new products. Production technology and service organization are undergoing changes, which are impacting businesses globally because of the incredibly short product life cycle compared to in the past (Auernhammer & Roth, 2021) developing new products is a top priority for businesses (Bouncken *et al.*, 2018). Mainly relying on tried-and-true ways of boosting competitiveness, such cutting costs, will not get you far in this industry. The only things that can help a business succeed are maintaining a consistent approach and coming up with fresh concepts. The development of new products and services is crucial to the expansion

of any economy and the advancement of social welfare (Chang, 2019; Simms & Trott, 2022). Utilization of business incubators is one avenue open to Latvian entrepreneurs seeking to create novel goods. Latvia is lacking in terms of innovation development. No evidence of this issue has been found. To find out what's causing this issue, there isn't enough high-quality methodology (Gawer, 2022).

Both producers and consumers must remain adaptable in the face of ever-increasing globalization, innovation, and change. Trendy terms like "Consumerism," "Fast Fashion," "Sustainability," and "Upgradation" appear every so often.

There is great hope for India's manufacturing sector, and the country is doing all it can to help it thrive. It is up to organizations to figure out how to adapt to the ever-

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increasing demands of expansion, competition, and innovation (Giachetti & Pira, 2022). The vast majority of India's technically-skilled populace finds work in the country's thriving manufacturing sector (Gilal *et al.*, 2021).

However, industrial organizations must pay attention to the factors that stimulate their profitability if they want to remain viable. The three most critical prerequisites for establishing and, more crucially, maintaining success have been defined in the literature as production cost, delivery time, and customer quality assurance (Peruta *et al.*, 2018; Legenvre & Gualandris, 2018; Lahindah & Siahaan, 2018). Thus, businesses gain an edge in the market when they can consistently come up with new ideas, learn how to make those ideas a reality, and meet the demands of their customers.

The manufacturing sector, like any other, must place a premium on innovation and the delivery of ever-newer products (material or otherwise) in order to survive the inevitable rise in prices brought about by increased competition. Innovations and new products are crucial in today's competitive market since change is constant (Jang *et al.*, 2021; Gosens *et al.*, 2021), regardless of how much we hate it. Therefore, for these businesses to succeed and remain secure in the long run, it is critical to develop and commercialize products and services quickly.

2. Objectives of the Study

- i. To learn how the Fast-Moving Consumer Goods (FMCG) sector rates the perceived quality boost from new product innovations.
- ii. To learn how consumers, play a part in the product innovation processes and what they can bring to the table.
- iii. Examine the role that product development initiatives play in helping FMCG companies run more successful product promotions.
- iv. Determine whether product development has a positive influence on team dynamics in organizations, specifically looking at how team members work together more effectively.

- v. To get insight into how efforts to improve products serve to promote a culture of learning and information sharing inside organizations.

3. Literature Review

eSilva and Zancul (2023): Studied that Scholars and practitioners alike are taking an interest in design thinking as a method for promoting innovation in a variety of settings. Having said that, there are many different schools of thought when it comes to design thinking, which can lead to a lack of clarity and unity in understanding. This study adds to the growing body of literature that aims to clarify design thinking in more detail. This article delves into new solution development initiatives, specifically looking at how design thinking helps to go from value creation to value capture, two essential goals of effective innovations. This analysis suggests that design thinking is more likely to encourage value creation than value capture, based on three comprehensive case studies of new product development in healthcare innovation projects. The development team follows the concepts of design thinking like a map, using user feedback to steer value creation. To generate value-creating solutions, the study also highlights the significance of combining design thinking with specialized knowledge.

Hermes *et al.* (2020): Businesses who have figured out how to use digital platforms have become industry leaders very quickly. No study has offered a framework that combines the new knowledge on digital platforms' winner-take-all markets, envelopment, transparency, or governance with the existing literature on these topics and how they relate to market domination. So, to find out how platform owners become so dominant, we look at the literature. Our research is a part of a larger framework that shows how different firms' strategies interact with one another and with external circumstances, and how different strategies affect market dominance. From the standpoint of platform owners, the framework provides a way to conceptualize platform dominance. From the perspective of competitors, it helps to cope with the phenomenon, and from the perspective of policymakers, it regulates the phenomenon. First, the part played by national factors in achieving dominance; second, the elements that allow platforms to maintain supremacy; and third, methods to

topple dominating platforms are the three directions we recommend further study go.

Smith (2022): Achieving corporate goals has never been more dependent on digital technology, and the ubiquitous implications of this technology have caused entire industries to undergo significant transformation. It is thus not unexpected that managers are highly interested in managing digital innovation. Recent studies have shown that digital technologies open up an enormous, unpredictable, and hard-to-control potential for new product and service innovations. Thus, businesses necessitate adaptable resources to aid in the administration of evolving digital innovation processes. As a result of these processes' inherent characteristics, businesses are compelled to question long-held beliefs regarding their digital ecosystem, innovation work organization, and product and service portfolio. Here we lay out a management structure that can help businesses with this task. The five main areas covered by the framework—user experience, value proposition, digital evolution scanning, skills, and improvisation—are designed to help with digital innovation management and its continuous improvement. In addition, we provide a diagnostic tool that businesses can use as they start to apply the framework. Our discussion comes to a close with some last remarks regarding the framework's management implications for the future of digital innovation in this dynamic environment.

León et al. (2022): researched the impact of the IT industry's growing dominance on the car industry and how the emergence of AVs is changing power dynamics. We examine the efforts of both established businesses and startups to shape the nature, trajectory, and infrastructure of a developing market by presenting the idea of market capture. The AV sector went through a period of remarkable expansion and consolidation between 2011 and 2018, which we illustrate by analysing alliance networks and technological acquisitions during that time. To better understand the inter-company dynamics that have shaped the development and growth of the AV industry, we analyse firm transactions using a variety of centrality metrics and their geographic locations. Market capture provides a valuable paradigm for analysing emergent sector transaction networks, including competitiveness, collaboration, regional patterns, and power asymmetries, as this research shows.

Gawer (2022): What are the most important ways in which the current digital revolution will impact management and organization? In this essay, we'll look at how digital innovation has opened up whole new possibilities for creating and capturing value. In my opinion, the most defining feature of modern digital organizations is the ecosystems that support digital platform enterprises. I outline the key points about innovation and competition that the proliferation of digital ecosystems and platforms has to say. While decentralized patterns of value creation characterized the conditions that gave rise to digital platforms, the present organizational shape of these platforms has resulted in a centralized mode of value capture due to the commercial models they have embraced. This has led to notable cases of digital platform companies abusing their economic power over ecosystem members and has sparked broad worries about other aspects of power, such as privacy and labour relations, that these companies exploit. Finally, I stress the need for more studies on ecosystem governance and argue that platform companies should be held to a high standard when it comes to their social obligations.

Khademi (2020): To thrive in today's corporate world, you need to know how to collaborate, co-create, and compete. Ecosystems today provide a plethora of chances to produce far more value than earlier methods of doing company independently. While ecological success is possible, there are also risks to be aware of. The concept of Ecosystem Value Creation and Capture (EVCC) has been more popular in recent years among management and business scholars. However, the existing contributions are fragmented, with scholars researching diverse elements of EVCC. This is because of the complexity of ecosystem structures and the uncertainty in understanding how value is created and captured in ecosystems. The topic did not receive significant attention until 2016, according to the content analysis of a fine-grained selection of articles pertinent to EVCC, even though conversations on the subject began in 2007. In the time after, the number of publications increased by a factor of 150. By reviewing the literature, shedding light on ongoing EVCC investigations, and pointing out future directions for study, this article adds to the growing body of work at the crossroads of strategy and EVCC studies.

Walsh et al. (2020): Headways in Science, Innovation, and Innovation (STI) are essential for making ready for earth

capable and comprehensive financial development. Thus, we spread out a financial system that shows how STI needs to change to find a place with the SDGs, and we go over the numerous public strategy decisions that can change venture designs in STIs to find a place with the SDGs. For the SDGs to be understood, it will be important to reorient STI and make new modalities of money, administration, and public strategy at all levels. This will include mixing the Method for Execution (MoIs) of the UN 2030 plan. The review starts with a structure and afterward examines the ramifications of our examination for the Unified Countries worldwide Innovation Help Component (TFM). The TFM is devoted to advancing access, move, and limits of science, innovation, innovation, and limit working across countries to achieve the SDGs.

Shim (2021): There are various manners by which shoppers pursue choices inside a solitary product classification. Through the mental, close to home, and conative stages, this study investigates the individual-explicit assignment processes associated with the reception of new products. Our study information on devoted digital book per user take-up was utilized to foster a general and adaptable Bayesian multivariate relapse model. Except for the conative → mental → emotional way, every one of the six of the other potential progress ways are suitable for the dynamic cycle, as indicated by the information. The market share is most noteworthy for the people who stick to the mental → full of feeling → conative interaction depicted by the progressive system of impacts, and it is least for the individuals who follow the emotional → conative → mental way. This examination has two principal commitments. Hypothetically, this examination laid out an admirable model to catch customer dynamic heterogeneity. By investigating review information from the Korean digital book peruser market, the review gives observational proof that numerous dynamic pathways exist. Inside the domain of substance, understanding the variety of shopper direction could offer marketers important data for buyer profiling and customer division.

4. Research Methodology

- i. **Research Type:** This study uses a cross-sectional approach and is quantitative in nature.

- ii. **Population and Sample Selection:** Product creators, marketers, advertising professionals, salespeople in businesses, and direct sellers are among the populace. Using a purposive sample technique, 50 individuals in total—four distinct FMCG producers, resellers, advertisement executives, and salespeople—were included in the study.

4.1 Data Collection

- i. **Questionnaires:** intended to collect quantitative information on a range of topics related to the influence of product development and innovation.
- ii. **Direct Observation:** used when introducing new products to gauge the response of direct sellers.
- iii. **Participants:** Product developers, marketers, advertising professionals, salespeople, and direct sellers provided the data.
- iv. **Data Collection Process:** Questionnaires were sent to participants who were difficult to contact, and follow-ups were made to guarantee a satisfactory response rate. To complement the quantitative results, qualitative information was gathered through interviews. Real-time reactions were sought through direct observation during the launch of new products.

4.2 Variables

- i. **Respondent:** Categorized from 2 to 5.

Impact of Product Innovation: Assessed using factors including teamwork, information sharing, consumer involvement, improved product promotions, and new product quality.

5. Data Analysis and Interpretation

Interpretation: Table 1 displays quantitative information obtained from a sample of fifty respondents in the FMCG industry, evaluating their opinions on a range of topics related to product development and innovation. The “Respondent” category had an average score of 1.80 among respondents, suggesting a modest level of agreement

Table 1. Descriptive statistics of the responses

Variable	N	Minimum	Maximum	Mean	SD	Variance
Respondent	50	2	5	1.80	0.880	0.790
How has product Innovation improved new product quality?	50	2	5	1.30	0.650	0.350
Were customers involved in the innovation process?	50	2	5	1.06	0.193	0.050
How did product development improve product promotions?	50	2	5	1.20	0.410	0.150
Did product development improve organisation's team dynamics?	50	2	5	1.10	1.250	0.100
How did product development improve the sharing of knowledge in the organisation?	50	2	5	1.45	0.700	0.450

Source: Primary data

Table 2. Correlation analysis between variables

		How has product innovation improved new product quality?	Were customers involved in the innovation process?	How did product development improve product promotions?
How has product innovation improved new product quality?	Person correlation	2	0.550**	0.300**
	Sig. (2-tailed)		0.000	0.006
	N	50	50	50

Source: Primary data

**Correlation is significant at the 0.02 level (2- tailed)

with the study's goals. Positive perceptions are shown by the noteworthy mean scores of 1.45 for the influence of product development on knowledge sharing and 1.30 for the impact of product innovation on new product quality. On the other hand, respondents' average score (1.06) for customer involvement in the innovation process was lower than expected, suggesting that they felt their involvement was limited. The mean score for the variable "Did product development improve organization's team dynamics?" was 1.10; however, the large standard deviation (1.250) indicates that respondents' opinions differed widely. All things considered, these results offer insightful information about how stakeholders view the relationship between customer involvement, organizational

dynamics, and product innovation in the FMCG sector.

Interpretation: The study's relationship between product innovation and new product quality, consumer involvement in innovation, and product development and improved product promotions are examined in Table 2, which exhibits correlation coefficients between important study variables. A highly substantial positive link ($r=0.550^{**}$, $p=0.000$) exists between product innovation and enhanced new product quality. Similarly, there is a moderately positive correlation of 0.300^{**} ($p=0.006$) between increased new product quality and customer involvement in the innovation process, indicating a statistically meaningful association. There is no

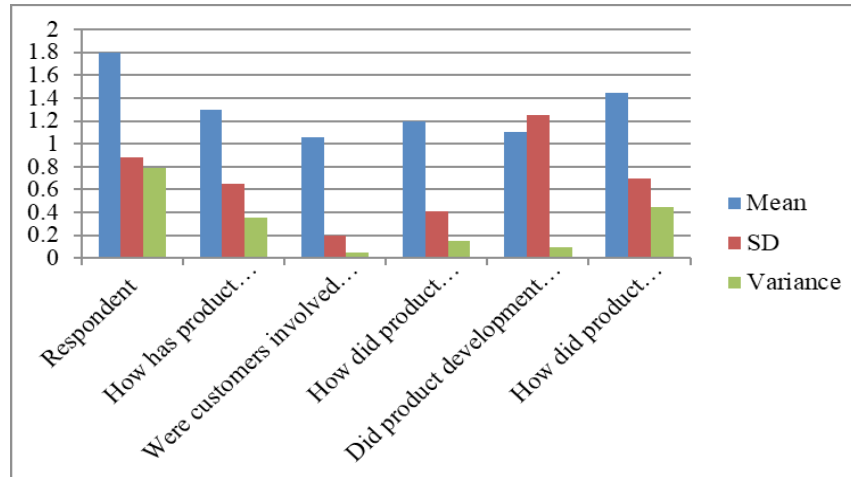


Figure 1. Descriptive statistics of the responses.

Source: Primary data

statistically significant link ($p=0.176$) between the effects of product development on product advertising and the quality of newly developed products. These results suggest that improved new product quality is strongly correlated with increased product innovation, and that customer involvement in the innovation process also contributes favorably, albeit to a slightly smaller degree. Given that the association with product advertising is not statistically significant, it may be necessary to examine other factors that could be impacting this relationship.

6. Discussion and Conclusion

It is possible for any business to significantly boost their performance by actively engaging in product creation and innovation. Having expressed that, it is fundamental to underscore that the method involved with growing new products, improving existing products, and accomplishing elevated degrees of execution is definitely not a simple assignment. Inventive and ground breaking organizations should perceive that product development and innovation are fundamental for their proceeded with presence and capacity to contend. It has been demonstrated through research that actions pertaining to product development and innovation are not, on their own, sufficient to achieve that lucrative market share. Instead, the product development target should be driven to meaningful utilization of resources by a far

clearer alignment of elements. In light of this study, a number of important takeaways have become apparent. In order for the organization that is innovating to realize the benefits of innovation, the quality of the new product must be superior to the quality of other products that are competing with it. Additionally, the value of client participation in the innovation process is demonstrated by this research. Utilizing the knowledge that is offered by market intelligence can also result in an extended good team spirit, which can be beneficial to the organization that is innovating. Without a shadow of a doubt, the findings of this study have the potential to motivate additional research into the subject, particularly when taking into consideration a wider geographical distribution across the country.

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The Impact of Government Initiatives on Sustainable Water Management and Agriculture

S. Prashanth and V. Bhoomika

Abstract

This study showcases the essential shift towards sustainability in Indian agriculture. Authors have delved into newspaper articles, research papers, public reports and surveys to achieve this objective. India is an agricultural powerhouse, producing a wide variety of crops and livestock. The agriculture sector employs over 50 per cent of the population and contributes 17 per cent to the GDP. However, India's agriculture sector is facing several challenges, including climate change, water scarcity, and rising input costs. There are pressing challenges of resource depletion, climate change, and food security. Through an interdisciplinary lens, this research investigates Water management strategies, Technology integration to enhance resilient and environmentally conscious agricultural systems and Credit Facilities for farmers to carry out sustainable agriculture. The prospects and difficulties of sustainability in the agriculture industry are identified by this study. The outcomes of the investigation are intended to give suggestions to policymakers, farmers, and the agriculture industry to ensure a sustainable future for India's agriculture.

Keywords: Agriculture, Economic Growth, Government Initiatives, Sustainability, Water Management

JEL Classification Codes: JEL Classification Code: Q25, Q56, Q58

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1. Introduction

'To forget to dig the earth and then the soil is to forget ourselves', says Mahatma Gandhi. In the past decade, the concept of sustainable agriculture has been in discussions which debate that sustainable agriculture in India has been adopted by only a small percentage of farmers. Lack of awareness and knowledge on the adoption of sustainable practices has been a major problem among the farmers in India. The government has initiated many schemes that assist and facilitate farmers to carry out their farming activities in a sustainable manner. However, these schemes in India are being adopted by a marginal number of farmers. Therefore, educating the farmers regarding the various schemes and facilities available to them is the need of the hour.

Due to growing urbanisation and the expansion of urban limits across the country, agricultural activities are to be seen only in the rural region of the country. It should also be noted that 70 per cent of Indian rural households rely on agriculture as their primary source of income. The Economic Survey of 2021 indicates that agriculture is the primary source of income for 47 per cent of Indians, who also form the majority of those living in rural areas (65 per cent). In India, the agricultural sector employs over 58 per cent of the workforce and contributes as much as 17 per cent to the country's GDP. The percentage of rural households that rely on agriculture has decreased to 50 per cent over time (National Skill Development Corporation, 2020). Hence, it is necessary to protect the agricultural sector from industrialisation and safeguard nature's gift to our upcoming generations.

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2. Literature Review

Kumar *et al.* (2016): Authors suggest that when Indian farmers face poor economic conditions, sustainable practices become essential for enhancing productivity, profitability, and overall production. These practices can significantly improve farmers' financial stability. The challenge lies in promoting agro-processing in India, especially considering the declining farm sizes. Providing training to farmers on organic post-harvest management and marketing can facilitate the adoption of organic farming. This shift to organic methods can help farmers enhance their economic conditions and achieve greater financial stability.

Sudhakar (2016): Indian agriculture faces significant challenges, including resource limitations, infrastructural constraints, and technological shortcomings. Water irrigation, the largest consumer of freshwater, is particularly affected as both surface water and groundwater are contaminated by the extensive use of pesticides and other chemicals for crop yield and profitability. Urbanization also plays a major role in the reduction of farmland, converting agricultural land into non-agricultural uses. To achieve sustainable agricultural growth, it is crucial to identify areas of intervention. Preventing the exploitation of Indian farmlands by both rural farmers and urban populations is essential for preserving these vital resources in a growing country like India.

Coulibaly *et al.* (2021): This research investigates the factors that contribute to farmers adopting organic farming, focusing on a study conducted in China in 2021. The study identifies several major factors influencing this shift. Demographic factors include age, education, gender, and income of the farmer. Farm-related factors encompass the size, location, and soil type of the farm. Psychological factors such as the farmer's attitude, perception, and social norms also play a significant role. Additionally, exogenous factors such as information acquisition, training, interactions within networks, and membership access to resources and markets are crucial in the transition to organic farming.

Nwachukwu (2022): This research highlights the role of technological innovations, such as solar energy, in making agriculture more accessible for farmers. It suggests that using animal manure as a nutrient source

for plants and adopting green agriculture practices can significantly benefit agricultural lands. While it can be challenging to implement new technologies in farms that rely on traditional methods, over time, these innovations can greatly benefit farmers. Two agricultural techniques—intensive and extensive agriculture—can be employed, with the aid of modern equipment, to reduce labour input and maximize yield. These methods are already in use in many foreign countries and could be adopted in India to enhance agricultural productivity.

Rani (2018): This research addresses the need to promote sustainable agriculture in India by examining the approaches and initiatives taken by the government. To support sustainable agriculture, the government has implemented policies that encourage organic farming and reduce reliance on chemical fertilizers and pesticides. Financial incentives and subsidies are provided to farmers adopting sustainable practices, along with the development of infrastructure for improved water management and irrigation systems. New initiatives include various schemes aimed at educating farmers, such as training programs and workshops on sustainable farming techniques. Additionally, sustainable agriculture education is being integrated into school curriculums and agricultural colleges. Effective marketing strategies are also being employed to raise awareness about the benefits of sustainable agriculture and encourage its widespread adoption. These efforts emphasize the importance of education and awareness in promoting sustainable agricultural practices across India.

Singh and Parihar (2015). This research highlights that the reduction in credit facilities by banks has led to unstable financial conditions for farmers, contributing to the agricultural downturn in the country. Open market operations and resource constraints also play significant roles in the decline of farming. Major challenges include the availability of rural credit, agricultural development, trade practices related to export and import, inadequate promotion of agricultural products, and limited knowledge of available schemes. The Indian population, a valuable resource for the country, remains underutilized. The government needs to introduce innovative initiatives to harness the talents of the unemployed population, channelling them into the agricultural sector to boost overall development and improve the agricultural landscape.

Ashokan and Murugan (2018). In India, organic farming is based on these principles. The soil is a living thing. Like humans, nature is the best teacher for farming activities. That idea of sustainable agriculture can be explained in three body areas. They are healthcare and equity. Social Equity and economic equity. The usage of pesticides and chemical fertilizers for the good yield of plants can affect the entire food chain as these crops become the food sources that are consumed by humans. That directly affects the food chain and the ecosystem in the biodiversity. For a good biodiversity and ecosystem, the usage of these pesticides and chemical fertilizers needs to be reduced and organic farming and animal manure need to be adopted for a good and healthy food chain.

Srivastava et al. (2016): This research states that To feed the growing human population sustainably, an increasingly resilient agro-ecosystem with internal regulation through agro-ecological management—that is, indirect management of ecological interactions—is needed in the face of accelerating climate change and externalities in the regulation of the agro-ecosystem. The efficiency and resilience of the agro-ecosystem may be improved by agro-management techniques based on the understanding of micro-scale resilience, potential efficiency, site-specificity with little off-farm inputs and leach-out (negative effects), economic viability, environmental soundness, ethical justice, and social acceptance are all necessary for agriculture to be considered sustainable. First and foremost, these agricultural methods must be grounded in a combination of conventional ecological knowledge and contemporary scientific insights. To accomplish sustainable development and agriculture, it might eventually cultivate and benefit from the ecosystem's subsidies. Additionally, acts that are grounded in the interactions of the entire ecosystem.

Chel and Kaushik (2011): Human nourishment depends exclusively on agriculture. However, the reliance on fossil fuels to power farm equipment accelerates climate change by contributing to greenhouse gas emissions. Promoting the use of renewable energy sources such as solar, wind, biomass, tidal, geothermal, small-scale hydro, biofuels, and wave-generated power can mitigate this environmental harm. These renewable resources hold immense promise for the agricultural sector. To encourage

the adoption of renewable energy technologies, subsidies should be offered to farmers. Sustainable agriculture aims to strike a balance between minimizing the use of limited natural resources, reducing environmental impact, and optimizing agricultural output and financial stability. Given that CO₂ emissions from agriculture have adverse environmental effects, managing energy use in agriculture is a global priority.

3. Agriculture Sector in India an Overview

Millions of people in India depend on the agriculture industry for their lives it is vital to the country's economy In many rural regions, traditional farming practices continue to be predominant despite efforts at modernization The unpredictable weather patterns brought on by climate change are a serious threat to crop harvests Through direct income transfers, government programs such as PM-Kisan seek to assist smallholder farmers To address environmental issues, sustainable approaches like organic farming are becoming more popular The use of AI and mobile apps, in particular, is transforming farming practices Investments in irrigation infrastructure are necessary because water scarcity is still a major problem Recent farmer demonstrations have brought attention to the need for equitable pricing methods and legislative reforms Value addition and supply chain management are critical functions of the agribusiness and food processing sectors.

4. Research Objectives

- i. To examine the government initiatives available for sustainable water management and agriculture.
- ii. To investigate the challenges that exist with the government Initiatives for sustainable agriculture.
- iii. To suggest possible highlights for policymakers, farmers and agricultural industry.

5. Government Initiatives for Sustainable Agriculture

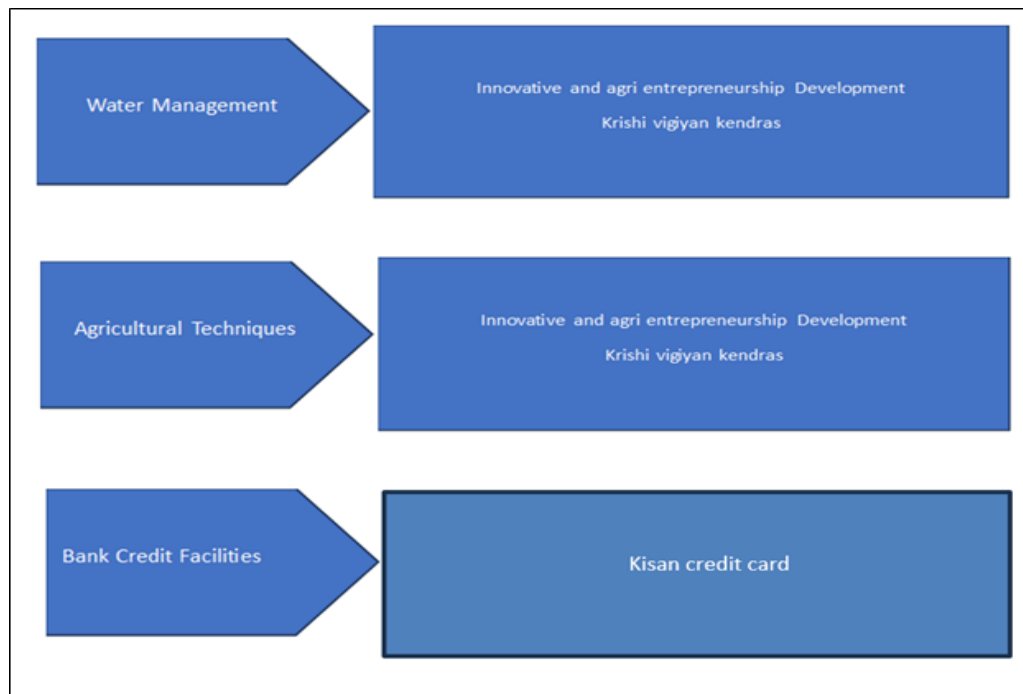


Figure 1. Figure showing the initiatives/schemes for sustainable agriculture.

Source: Authors' work

5.1 Water Management

Rainwater collection is the main method used by the Water Management Program to increase groundwater and restore depleted subterranean aquifers. Long-term improvements in groundwater availability and quality result in rural families having access to secure water supplies. Approximately 4,000 cubic kilometres of water are accessible nationwide each year as a result of precipitation. There are 1,869 cubic kilometres of surface water and replenishable groundwater available. Only sixty per cent of this can be used effectively. Therefore, the nation's total usable water resource is merely 1,122 cubic kilometres.

5.2 Jal Jeevan Mission

The Accelerated Rural Water Provision Programme was introduced in 1972 as the first step in the Central Government's aid to States for rural water provision. In 2009, it was renamed the National Rural Drinking Water Programme (NRDWP), a federally funded initiative that is divided equally between the federal government and

the states. "Enable all households to have access to and use safe and adequate drinking water within premises to the extent possible" was one of the goals under the NRDWP. The aim was supposed to be accomplished by 2030, in line with the Sustainable Development Goals of the United Nations. However, it is now intended to use the Jal Jeevan Mission (JJM) to accomplish the target by 2024. As per the information available with DDWS, as of 31st March 2019, only 18.33 per cent of rural households, i.e., 3.27 Crore out of the total 17.87 Crore rural households in the country, have piped water connection.

5.2.1 Jal Jeevan Mission Rural 2019 (JJM)

The National Rural Drinking Water Programme (NRDWP) has been restructured and merged by the Indian government into the Jal Jeevan Mission (JJM) to provide every rural family, or Har Ghar Nal Se Jal (HGNSJ), with a Functional Family Tap Connection (FHTC) by 2024. The government aims to provide tap water connections to 100 per cent of rural households by the end of 2024. Under this mission, each family is provided with 55 litres of clean water per day per person.

The following types of works/schemes are proposed to be undertaken under JJM:

1. In-village water supply (PWS) infrastructure for tap water connections to every household.
2. Reliable drinking water source development/augmentation of existing sources.
3. Transfer of water (multi-village scheme; where quantity and quality issues exist in local water sources).
4. Technological intervention for treatment to make water potable (where water quality is an issue, but quantity is sufficient).
5. Retrofitting of completed and ongoing piped water supply schemes to provide FHTC and raise the service level.
6. Grey-water management.
7. Capacity building of various stakeholders and support activities to facilitate implementation.

5.2.2 Jal Jeevan Mission Urban 2021

To provide functional household tap connections to houses in all 4378 urban local bodies

5.2.3 Challenges and Issues while Implementing this Scheme (JLL)

- i. COVID-19 epidemic: The worldwide epidemic has impacted numerous industries, including infrastructure-building initiatives like the “Har Ghar Jal” mission. These limitations have slowed down the pace of implementation by affecting the supply of essential materials such as pipes and other building supplies, leading to additional delays.
- ii. Water Contamination: Certain areas, such as Kerala and West Bengal, continue to face challenges with contaminated water, making it difficult to ensure that people have access to clean drinking water. Additionally, there is a shortage of qualified labour in several states to construct water connections, cisterns, and tanks of adequate quality.
- iii. Implementation Delay: Instances have occurred where the Jal Jeevan Mission (JJM) has not initiated

the process of supplying tap connections to houses, resulting in delays in meeting the goals. Approximately 1 crore families (5 per cent of the total) out of the approximately 19.5 crore intended to be covered by the initiative have not yet commenced any activity.

- iv. Certification and Connectivity: Although there has been an increase in the number of tap connections in areas such as Rajasthan and Uttar Pradesh, additional efforts are still needed as certification and full connectivity of villages remain low. In most communities, there is insufficient connectivity between every household, with many having piped water connected to only half or three-fourths of their houses.

5.3 Pradhan Mantri Krishi Sinchayee Yojana 2015 (PMKSY)

The **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** is an irrigation scheme initiated by the Indian government. Recently, the government announced the Pradhan Mantri Krishi Sinchayee Yojana to enhance irrigation and agriculture. Introduced on July 1st, 2015, the PMKSY is executed with the motto “Har Khet Ko Paani” (Water to Every Field), aiming to expand the cultivated area with assured irrigation, minimize water wastage, and enhance water utilization.

5.3.1 Beneficiaries of Pradhan Mantri Krishi Sinchai Yojana

- i. Farmers in any level or class.
- ii. Farmers who possess or own land.
- iii. Participants in producer farmer groups, trust cooperative societies, and self-help organisations.
- iv. Farmers who farm property under lease;
- v. Farmers who exclusively have Indian citizenship

5.3.2 Challenges and issues while implementing this scheme

Among the Indian states, Tamil Nadu is leading to the installation of drip irrigation systems. The purpose of the study was to determine the barriers that the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) beneficiaries

in the Tamil Nadu districts of Dharmapuri, Salem, and Erode faced in adopting drip irrigation systems.

Data was gathered through in-person interviews. The limitations were divided into four categories: **Technical, Infrastructure, Financial, and Educational**. The respondents were questioned about the different obstacles they encountered when using drip irrigation systems. The Garrett Ranking approach was utilized to rate the restrictions.

- i. The PMKSY beneficiaries encountered various technical obstacles when implementing drip irrigation technology, including claims that it was “not suitable for field crops” (74.38), that “clogging of drippers by suspended materials” (62.82), that it needed regular maintenance (59.71), that it was challenging to maintain the ideal pressure to discharge water (50.85), and other issues.
- ii. The PMKSY beneficiaries encountered various infrastructure-related obstacles when implementing drip irrigation technology. These included inadequate electricity supply for irrigation fields (72.76), subpar after-sales service from the companies (62.90), lack of technical staff availability (55.65), inadequate distribution network in rural areas (41.56), untimely availability of spare parts (39.11), and subpar quality of pipes and micro-tubes (38.06).
- iii. The farmers faced financial challenges in adopting drip irrigation systems, including high maintenance costs (89.38), “high cost of equipment / spare parts” (86.11), needing an additional tank to achieve optimal pressure (81.86), inadequate subsidies provided (80.75), a laborious loaning process (77.88), and expensive liquid fertilizer (72.20).
- iv. The Educational constraints faced by the PMKSY beneficiaries were perceived as inadequate awareness about the advantages of drip irrigation technology (73.15).

5.4 Atal Bhujal Yojana (2019)

Atal bhujal yojana is also called Atal Jal A central sector programme valued at Rs. 6,000 crore, the Atal Bhujal Yojana seeks to manage groundwater sustainably while including the community. It calls for public involvement in

the creation of water budgets, the planning and execution of water security strategies at the gram-panchayat level, etc.

The Ministry of Jal Shakti, formerly the Ministry of Water Resources, River Development, and Ganga Rejuvenation, is in charge of carrying it out. The World Bank and the Indian government are contributing 50 per cent each to the program’s funding. For the scheme’s implementation, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh have been recognized as overexploited and water-stressed regions.

In the state of Haryana, it consists of 1656 Gram Panchayats, 36 blocks, and 14 districts. The degree of groundwater exploitation and degradation, the presence of established legal and regulatory frameworks, institutional preparedness, and prior experience implementing groundwater management programs have all been taken into consideration in the selection of the States.

5.4.1 Challenges and Issues While Implementing this Scheme

- i. Groundwater Management: Ensuring effective management of groundwater resources, including monitoring usage and replenishment, is a significant challenge.
- ii. Stakeholder Participation: Engaging and coordinating with various stakeholders, including farmers, local communities, and government agencies, to ensure their active participation and support.
- iii. Data Availability: Accessing accurate and up-to-date data on groundwater levels, recharge rates, and usage patterns can be challenging, hindering informed decision-making.
- iv. Technological and Infrastructure constraints: implementing ABHY requires the use of advanced technologies for groundwater monitoring, recharge, and management which may be lacking in some areas.
- v. Additionally insufficient infrastructure to store the water like dams, canals, recharge wells, Buildings etc.
- vi. Community participation and Governance: Engaging local communities in groundwater management and ensuring their participation in decision-making

processes is crucial for the success of ABHY but can be challenging to achieve.

- vii. Policy Implementation: Ensuring that policies and regulations related to groundwater management are effectively implemented at the grassroots level.
- viii. Behavioral Change: Promoting behavioural change among farmers and other water users to adopt more sustainable water practices and reduce over-extraction of groundwater.
- ix. Funding and Financing: Securing adequate funding and financing mechanisms to support the implementation of ABHY projects and initiatives.
- x. Climate Change Impact: Addressing the potential impact of climate change on groundwater availability and recharge patterns, which may exacerbate existing challenges.

5.5 Adoption of Digital (Smart Farming) and Innovative Farming Techniques

The adoption of modern and smart farming technologies by farmers depends on various factors such as socioeconomic conditions, geographical conditions, crop growth, and irrigation facilities.

5.5.1 Innovative and Agri-Entrepreneurship Development

The Indian government helps and encourages state governments to advance agriculture across the nation and integrate cutting-edge, intelligent farming technologies into the agricultural industry. The Sub-Mission on Agricultural Mechanism promotes the employment of contemporary machinery, such as Kisan drones. Funding for digital agriculture projects utilizing cutting-edge technologies like blockchain, Internet of Things (IoT), artificial intelligence and machine learning (AI/ML), and others is provided to state governments through the NeGPA program. In 2018–19, the Rashtriya Krishi Vikas Yojana (RKVY-RAFTAAR) introduced a component dubbed “Innovation and Agri-Entrepreneurship Development” to foster the incubation ecosystem and advance innovation and Agri-entrepreneurship through financial support.

Start-ups are encouraged to apply cutting-edge technologies under this plan to address problems in the agriculture and related sectors. The States receive the funds by their recommendations. The Per Drop More Crop (PDMC) Centrally Sponsored Scheme is being implemented by the government to improve farm-level water use efficiency by means of Micro Irrigation, specifically Sprinkler and Drip Systems. By fertigation, the Micro Irrigation reduces the need for fertiliser and saves water. It also lowers labour costs and other input prices while increasing farmers’ overall income. Micro Irrigation is relevant in attaining national priorities including increasing crop output, raising on-farm water usage efficiency, improving the quality of agri/horticultural goods, etc., according to recent evaluation studies of the plan. Opting digital and smart farming techniques involves leveraging technology and new methods to enhance productivity, sustainability, and efficiency in agriculture.

- i. Precision Agriculture: This involves using GPS, sensors, drones, and satellite imagery to monitor and manage crops and livestock with precision. Farmers can optimize inputs like water, fertilizers, and pesticides, reducing waste and environmental impact while maximizing yields.
- ii. Smart Farming: Integrating IoT (Internet of Things) devices and sensors in farming operations enables real-time monitoring of environmental conditions such as soil moisture, temperature, and humidity. This data helps farmers make data-driven decisions, such as when to irrigate or apply treatments.
- iii. Vertical Farming: Utilizing indoor farming techniques like hydroponics, aquaponics, and aeroponics, where crops are grown in stacked layers under controlled conditions, allows for year-round production in urban areas. This method conserves space, water, and resources while minimizing transportation costs.
- iv. Robotics and Automation: Employing robots for tasks like planting, harvesting, and weeding reduces the need for manual labor, addresses labor shortages, and improves efficiency. Autonomous vehicles and drones can also be used for tasks like crop scouting, spraying, and mapping.
- v. Blockchain Technology: Implementing blockchain in agriculture can enhance transparency and traceability

throughout the supply chain. Farmers can record data such as crop origin, cultivation practices, and transportation details, ensuring food safety and quality while building trust with consumers.

- vi. **Data Analytics and AI:** Analyzing large datasets using AI algorithms helps predict crop yields, optimize planting schedules, and detect disease outbreaks early. AI-powered solutions can also provide personalized recommendations to farmers based on historical data and real-time observations.
- vii. **Agri-Tech Startups and Collaboration:** Encouraging innovation through partnerships between traditional agricultural companies, startups, research institutions, and government agencies fosters the development and adoption of new technologies and practices.

5.5.2 Challenges and Issues while Implementing this Scheme

- i. **Access to Capital:** Securing funding for innovative agricultural ventures can be challenging due to the high upfront costs, perceived riskiness, and lack of collateral among entrepreneurs.
- ii. **Market Access:** Connecting innovative agripreneurs with markets for their products can be difficult, especially for those operating in remote or underserved areas with limited infrastructure and distribution channels.
- iii. **Technology Adoption:** Embracing new technologies in agriculture requires significant investment in equipment, training, and infrastructure, which may be beyond the reach of small-scale entrepreneurs.
- iv. **Regulatory Hurdles:** Navigating complex regulations and bureaucratic processes related to land use, permits, and certifications can pose significant barriers to entry for agripreneurs.
- v. **Climate Change and Environmental Sustainability:** Increasingly unpredictable weather patterns and environmental degradation present challenges to sustainable agricultural practices, impacting productivity and profitability.

vi. **Access to Information and Education:** Limited access to relevant information, technical knowledge, and business skills can hinder the ability of agripreneurs to innovate and succeed in their ventures.

vii. **Infrastructure and Logistics:** Inadequate transportation, storage, and processing facilities can constrain the growth of agricultural enterprises by limiting their ability to scale up production and reach larger markets.

viii. **Access to Inputs:** Availability and affordability of quality inputs such as seeds, fertilizers, and pesticides are essential for agricultural productivity, but access can be constrained by factors such as market monopolies or supply chain disruptions.

ix. **Market Volatility:** Fluctuations in commodity prices, exchange rates, and global trade dynamics can create uncertainty for agripreneurs, making it difficult to plan and manage their businesses effectively.

5.6 Krishi Vigyan Kendras (KVK)

The Krishi Vigyan Kendra's (KVKs) project is being implemented by the Indian Council of Agricultural Research in several States of the country to assist farmers in embracing cutting-edge farming methods created by National Agricultural Research Systems. The activities of KVKs include testing technology on farms to determine its location specificity under different farming systems; demonstrating on the ground the production potential of enhanced agricultural technologies; building farmers' capacity to upgrade their knowledge and skills; and producing high-quality seeds, planting materials, and other technology inputs to make them available to farmers. The KVKs engage in a wide range of extension activities to raise farmers' awareness of agricultural advancements and technologies.

Further, as per the Budget Announcement for the year 2023-24, the Ministry of Agriculture and Farmers Welfare has taken various initiatives to build Digital Public Infrastructure (DPI) for agriculture as an open source, open standard and interoperable public good. These initiatives intend to provide access to technology and information to the farmers across the country to address

the farmer-centric solutions, through various digital initiatives.

5.6.1 Challenges and Issues while Implementing this Scheme

- i. **Limited Resources:** Many KVKs struggle with limited funding, manpower, and infrastructure, hindering their ability to effectively implement programs and reach out to farmers.
- ii. **Technology Adoption:** Encouraging farmers to adopt modern agricultural practices and technologies can be challenging due to factors like lack of awareness, access, and initial investment costs.
- iii. **Extension Services:** Ensuring effective extension services to disseminate agricultural knowledge and information to farmers in remote and rural areas can be difficult due to logistical constraints and communication barriers.
- iv. **Tailored Solutions:** Providing customized solutions and advice to diverse farming communities with varying needs and conditions requires specialized expertise and resources.
- v. **Market Linkages:** Facilitating market linkages for farmers to sell their produce at fair prices and access to markets can be a challenge, particularly for smallholder farmers.
- vi. **Climate Change:** Addressing the impacts of climate change, such as erratic weather patterns, water scarcity, and pest outbreaks, requires adaptive strategies and resilient farming practices.
- vii. **Policy Support:** Advocating for supportive policies at the government level to address agricultural challenges and provide necessary resources and infrastructure for KVKs to function effectively.

5.7 Bank Credit for Sustainable Agriculture

Land management, soil recovery, livestock, equipment, and forestry are the five lines of credit that make up the instrument's ten-year revolving credit facility concept. Concessional and commercial capital will be used by the facility to accumulate an investment fund.

5.8 Kisan Credit Cards (KCC)

Introduced in 1998, the scheme was introduced by NABARD (NATIONAL AND BANK AGRICULTURE OF RURAL DEVELOPMENT) the Kisan Credit Card (KCC) scheme aims to provide farmers with credit cards based on their holdings, which will be uniformly adopted by banks. This will allow farmers to easily buy agricultural inputs, such as pesticides, fertilizers, and seeds, and to obtain cash for their production needs. In 2004, the programme was expanded to include allied and non-farm industries that farmers needed investment assistance for. A working group led by Shri T. M. Bhasin, CMD of Indian Bank, reexamined the programme in 2012 in an effort to streamline it and make it easier to issue Electronic Kisan Credit Cards. The plan gives banks extensive instructions on how to operationalize the KCC plan.

Interest rate - Interest rate are very low for farmer which can repayable by farmers

Eligibility - That are no specific age limit for applying for KCC applicant must be legal age to enter into financial agreement. But applicant must be a farmer who owns a land either individual or jointly with others

Documentation - Identify proof, address proof, land owner ship document and other relevance document.

5.8.1 Challenges and Issues while Implementing this Scheme

- i. Many of the farmer are not aware of this scheme or its benefits. Lack of awareness are need for farmer to update about KCC scheme.
- ii. Farmers often faces challenges in providing the necessary and meeting the eligibility criteria for obtain KCC.
- iii. The farmer may misuse the KCC loans amounts like non-agriculture, leading to indebtedness, repayment difficulties this may properly monitoring and evaluation mechanisms and needed to prevent such issues.
- iv. Technology is the main issue for fill the forms and digitally banking services.
- v. Lack of infrastructure facility.

6. Suggestions for Improvement

6.1 Jal Jeevan Mission

- i. Provide training and programs for local communities, especially women, to operate and maintain the water supply infrastructure.
- ii. Design and implement water supply systems that are resilient to climate change, considering factors like changing rainfall patterns, droughts, and floods.
- iii. Implement smart water meters to track consumption, detect leakages, and encourage responsible water use.

6.2 Pradhan Mantri Krishi Sinchai Yojana

- i. Encourage the use of alternative and sustainable sources of irrigation such as micro-irrigation, drip irrigation, and sprinkler systems to improve water use efficiency.
- ii. Invest in and promote the adoption of modern technologies like sensor-based irrigation systems, automated irrigation scheduling, and precision farming techniques to optimise water usage.
- iii. Provide financial incentives and subsidies for farmers adopting water-saving technologies and practices. This can encourage widespread adoption and make the scheme more attractive.

6.3 Atal Bhujal Yojana

- i. Provide training and capacity-building programs for local communities, water user associations, and officials to enhance their understanding of groundwater management techniques and practices.
- ii. Strengthen the monitoring and evaluation system by investing in advanced technologies for real-time data collection on groundwater levels, quality, and extraction rates. Use this data for informed decision-making.
- iii. Implement and enforce regulations on groundwater extraction, especially in critical and over-exploited areas. Use pricing mechanisms to discourage excessive use and promote sustainable practices.

6.4 Adoption of Digital and Innovative Farming Techniques

- i. Facilitate partnerships between the government and private sector to drive innovation in agriculture. Encourage technology companies to invest in research and development for solutions tailored to Indian farming conditions.
- ii. Implement a feedback mechanism that allows farmers to share their experiences, challenges, and suggestions regarding the use of digital tools. This feedback loop can help refine and improve the effectiveness of these technologies.
- iii. Develop and promote affordable digital tools and technologies tailored to the needs of small and marginal farmers. Subsidies or financial incentives can make these technologies more accessible.

6.5 Krishi Vigyan Kendras

- i. Facilitate linkages between farmers and markets. Help farmers understand market demands, negotiate better prices, and explore opportunities for value addition and agri-business.
- ii. Conduct regular field demonstrations to showcase modern agricultural techniques, new crop varieties, and innovative practices. This hands-on approach helps farmers understand and adopt new methods more easily.
- iii. Facilitate farmer-to-farmer learning programs where successful farmers share their experiences and best practices. This peer-learning approach can be highly effective in promoting adoption.

6.6 Kisan Credit Cards

- i. Increase awareness about the KCC scheme among farmers and aim for higher enrolment to ensure broader coverage.
- ii. Simplify the application process to make it more accessible, especially for small and marginal farmers. Introduce digital platforms for online application submission.

- iii. Regularly review and rationalise interest rates to ensure they remain affordable for farmers, taking into account inflation and changing economic conditions.

7. Findings

1. In Sustainable Agriculture in past the utilisation of cover crops due to the cost associated with it and now the utilisation of these cover crops has improved the soil health, prevented erosion and suppressed weeds.
2. Before the technology and Digital Adoption in agriculture was very less, but in these days the adoption of New Technology such as Artificial Intelligence (AI), Machine Learning (ML) and Internet of Things (IOT) and drones for better for cultivating the crops and get better yields.
3. These days the Different Irrigation Techniques such as Drip Irrigation sensors and Micro-Irrigation and Sprinkler Irrigation has been utilised more by the farmers.

7.1 Future Directions for Research

The future direction for sustainable agriculture and water management involves implementing innovative technologies such as precision agriculture, hydroponics, and drip irrigation to maximize resource efficiency. Additionally promoting agro-ecology practices, soil conservation, and water recycling, system will be crucial for long term sustainability. Collaborative efforts among stakeholder including government, farmers. And researcher, will be essential to address challenges like climate change and water scarcity while ensuring food security and environmental stewardship. Agriculture sector is an important contributor to the Indian economy around which socio-economics privileges and Deprivations revolve and any change in its structure is likely to have corresponding impacts on the existing pattern of social equity. Sustainable production depends upon the climate, rainfall, and topology. Indian agriculture faces resource constraints, infrastructural constraints, and institutional constraints. Technological constraints and policy induces limitation.

7.2 Conclusion

Sustainable agriculture in India holds significant potential to make a positive impact among all farmers if they are educated and supported in adopting sustainable methods. Government initiatives play a crucial role in aiding farmers to adopt new farming practices. It is essential for Indian farmers to be educated about these initiatives, as only a small fraction of the farming population currently utilizes them. Word-of-mouth marketing strategies can be employed by farmers to spread awareness about these initiatives, particularly targeting first-generation school-goers. When farmers are aware of these schemes, they can effectively utilize resources while ensuring their availability for future generations. If sustainable agriculture and water management practices are adopted by the majority of farmers in India, the country can eradicate food shortages and become a leading exporter of food products to other nations.

As many economists and leaders have emphasized in the past, agriculture is the backbone of the country, and effective measures must be taken to protect this sector for the nourishment of future generations. Agriculture, being the first occupation of humankind and encompassing the entire earth, serves as the foundation for all other industries (Stewart). Therefore, ensuring the success of agriculture is paramount, as any failure in this sector can have cascading effects on other aspects of society.

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Inclusion to Innovation: How Leaders can Create a Culture of Creativity

S. Vijayalakshmi¹ and Hema Harsha²

Abstract

Within an organization, leadership is thought to have a particularly significant impact on creativity and innovation. The promotion of employee well-being and competitive advantage through inclusion is a critical component of global company and is suggested as a novel way to diversity management. This study aimed to investigate how inclusive leadership plays a vital role in generating innovative work behavior. This study collected data from managerial-level employees of various businesses. This study suggests that industry leaders should adopt an inclusive leadership style to enhance employees innovative work behavior and overall industry performance.

Keywords: Employee Creativity, Inclusive Leadership, Innovation, Innovative Work Behavior, Leadership

JEL Classification Code: Z19

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1. Introduction

Inclusion is a crucial aspect of global business, promoting competitive advantage and employee health, and is proposed as a unique diversity management approach. (Roberson, 2006; Thompson & Matkin, 2020). Inclusive leadership, introduced in 2006, refers to a leader's words and actions that acknowledge and appreciate others' contributions. (Nembhard & Edmonson, 2006; Korkmaz *et al.*, 2022), and the concept of leaders who are visible, accessible, and available in their interactions with followers has evolved significantly. (Carmeli *et al.*, 2010).

A novel approach to leadership is inclusive leadership, and effective team leadership is essential to raising team productivity. This research investigates the connection between creative work practices and inclusive leadership. It puts out a conceptual framework with inclusive leadership and innovative work practices.

Organizations may unleash individual potential and foster an atmosphere where all talent can flourish and develop by implementing inclusive leadership (Li & Tang, 2022; Rajun *et al.*, 2022; Shah *et al.*, 2022). It makes heterogeneous teams more capable of outperforming homogeneous ones and unleashes collective intelligence. Although they are uncommon, inclusive leaders can be identified, trained, and developed. Building diverse and inclusive workplaces is vital, and the key to accomplishing this is inclusive leadership (Malik *et al.*, 2017).

Research on inclusive leadership, a trending style for managing diverse workplaces, is limited. This study examines the relationship between inclusive leadership and innovative work performance. Leaders can be extremely important in developing and defining different programs that promote inclusiveness in the workplace (Siyal *et al.*, 2023; Ogunsola *et al.*, 2024). In groups and organizations, leadership is frequently viewed as a

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multifaceted and intricately designed process. (Gardner *et al.*, 2010; Guo & Yim, 2022; Khattak *et al.*, 2022). This study provides a range of characteristics for inclusive leader behavior that businesses can implement to reap the rewards of workplace inclusion. Inclusive leaders communicate a clear message that they want members to share and exchange unique talents and to use them in their work practices by highlighting the value of individuality. When employees feel valued, and at ease speaking up and expressing themselves, they become more intrinsically motivated and have more energy to work on innovative and creative tasks. (Atwater & Carmeli, 2009; Ashikali *et al.*, 2020; Dai & Fang, 2023). This research contributes to understanding leadership's role in developing competitive advantage and extends previous research on antecedents of employee innovative behavior.

2. Methodology

Existing literature prescribes primary data as a source of information for this research. The current paper uses an interview schedule and questionnaire to collect data. Respondents for the study included managerial level employees from various businesses belonging to different industries in Bangalore City. Responses were collected through Google forms. After a one on one discussion and orientation regarding the objectives, a pilot study was conducted in order to elicit responses. The data is analysed for further discussion and inferences.

The businesses chosen for the research are highly focused on innovation and operate in complex and dynamic economic environments. Managerial level employees at these organizations therefore have creative roles and are required to demonstrate innovative work behavior.

2.1 Problem Statement

Diversity and inclusion issues not only impact culture but also product quality and the client experience. Innovation is critical for the success of the creative economy, and diverse teams contribute significantly to bridging gaps with their unique ideas and perspectives. The volatile work environment and evolving mindsets necessitate adaptation to changing leadership needs. Reinvention should start from the top, with inclusive leadership exemplified by leaders fostering a diverse,

equitable workplace that bridges gaps. Organizations may help people reach their full potential and foster a more productive and collaborative work environment by adopting inclusive leadership.

Exclusion has a greater chance of resulting in health problems, resignations, and dissatisfaction at work than bullying or harassment. Individuals who feel excluded from their job are more likely to resign and have a lower sense of commitment, involvement, and belonging. Team psychological safety affects team, individual, and organizational effectiveness, making it a performance issue for the company.

2.2 Research Gap

Diversity and leadership are two emerging themes. (Ghosh *et al.*, 2014) However, the developing areas of leadership, diversity, and culture receive relatively little attention in HRD research. (Callahan, 2007; Hollander *et al.*, 2008; Al Wali *et al.*, 2021) There is less research based on empirical data, and there is a need to examine inclusive leadership with real time data from organizations. To gain new insights into the expanding field of inclusion. Further research is needed on the relationship between inclusive leadership, and an inclusive work environment, fewer research using samples from various sector have been done to examine the relationship between inclusive leadership and innovative work behaviour. The study adds to the body of knowledge in a number of ways. The study first examines the mechanisms that connects Innovative work behavior and inclusive Leadership.

2.3 Research Question

In what direction does inclusive leadership influence and increases innovative work performance?

2.4 Research Objectives

1. To investigate the relationship between inclusive leadership and innovative work behaviour
2. To examine whether inclusive leadership encourages creative work practices among employees.
3. To provide possible practical implications for inclusive leadership for the companies.

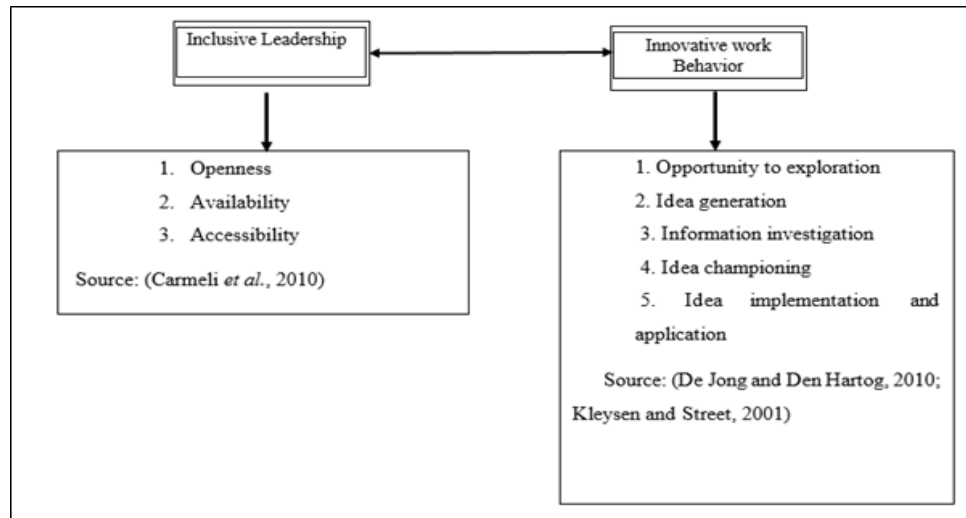


Figure 1. Conceptual framework of the study.
Source: Authors' work

3. Key Discussions

Innovative work practices and inclusive leadership are positively correlated and contribute to increased employee involvement in creative work suggesting that inclusive leadership is a key factor between inclusive leadership and employee creativity. Employees at the managerial level concur that the three primary tenets of inclusive leadership are accessibility, availability, and openness. Characteristics like being receptive to fresh perspectives, chances to enhance work procedures, the organisational intended goals, and innovative approaches to achieving them are important. Organisations should focus on incorporating these principles as a part of their work practices to sustain in the present day competitive landscape. Inclusive leaders should be open to discuss the organization's desired goals and new ways to achieve them. The employees will look forward that the manager is available for professional discussions, encourage employees to express their view so as to create an atmosphere inclusivity in the workplace.

Employees occasionally embrace the opportunities to help enhance an established procedure, piece of technology, good or service, or workplace culture. Though the responses indicates moderate level inclusivity. Employees though their work behavior can develop inclusive culture. Employees frequently see chances to positively impact their department, company, customers, or work environment. Employees will rarely characterize issues more broadly in an effort to understand them better.

Sometimes, workers see opportunities to improve things in their area, company, or interaction with clients. Employees look for new tools processes, or working ways on a regular and occasional basis. Employees often come up with innovative ways and solutions to work issues and resolve them. They also sporadically inspire significant organization members to embrace novel concepts and implement the same. When implementing new methods into an already-existing procedure, technology, good, or service, they frequently amend any deformities leading to better performance. Employees frequently methodically incorporate creative ideas into workflow procedures and occasionally integrate fresh concepts for enhancing an already-in-use procedure, technological product, or service in to regular tasks.

This research suggests that inclusive workplace practices are positively impacted by leaders' behaviour. Leaders play an essential role in promoting inclusivity. As a result, it makes sense and is imperative that leaders acquire new skills and encourage inclusive behaviour. This study provides a range of characteristics for inclusive leader behaviour that businesses can implement to reap the rewards of workplace inclusivity. The suggested leadership framework offers academics and practitioners several ways to study the inclusion domain. This study contributes to the theory of inclusive leadership and its impact on innovative employee work behaviour in the different industries through effective mechanisms. Inclusive leadership boosts innovation, employee engagement,

problem-solving abilities, and customer service, fostering a positive organizational culture.

4. Conclusion and Directions of Future Research

Researchers are urged to examine the literature from a range of additional sources outside the ones listed in this study to investigate more recent paths. The popular management strategy for diverse businesses, known as inclusive leadership, has not received much research. An extensive single corporate case may be examined; research on numerous businesses across several industries can be conducted to gain a comprehensive understanding of inclusive leadership and creative work practices in Indian companies. In addition, other industries besides the IT sector may be examined for inclusiveness and innovative work practices.

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Applications of Arithmetic Mean and Geometric Mean in Statistical Analysis

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JEL Classification Code: Y20

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Arithmetic Mean

This article aims to highlight the situations in which various statistical measures can be effectively used, beginning with the mean. The definition of the arithmetic mean is the sum of the values of the same kind divided by the number of values observed. If the values plotted on graph paper form approximately a bell-shaped curve, then the best central measure to describe the data is the **arithmetic mean**. In general, almost all manufactured products follow a bell-shaped curve. In this case, the arithmetic mean is preferred as a measure of central value. General form of arithmetic mean is given as:

$$\bar{X} = \frac{\sum x}{n}$$

The arithmetic mean is used to compare the average performance of sales teams, provided there are no outliers. An outlier or extreme value is a numerical value that lies beyond the series of observation. For example, in the series of observations {8, 18, 10, 12, 14, 16, 17, 37}, 37 is an extreme value and is addressed as an outlier. It is important to remove the outlier from a series of observation to avoid skewness. Skewness refers to the condition where the data points tilt to any one side of observations. It can be understood better with the following instance - Average of the first seven values is 13.57, whereas the average of all eight values (including the extreme value) is 16.5.

The average has increased by 21.59%, this difference of 21.59% from the original mean is due to the inclusion of extreme value. Outliers distort the arithmetic mean, and they should be eliminated if there is a sound reason.

Arithmetic mean and its applications are not only implemented in text books but is also useful in day-to-day life. For instance, Mr. Vivek owns a small workshop with 60 employees. This year, he earns 20% more profit than usual and expects this trend to continue for the next few years. Due to the advent of new industries in his locality, population has raised and so has the sales. To meet the new demand, he wants to motivate his employees to work more by increase their salaries by 10%. In this case, if the previous average salary was ₹10,000, and you are required to compute the new average salary after 10% increment in the employee salaries. To know the present average salary of employees, simply multiply the former average salary by 110, and divide by 100:

$$\text{New average salary} = 10,000 \times \frac{110}{100}$$

Therefore, the new average salary is ₹11,000.

In another instance, Mr. Suresh has five salesmen working under him, each assigned to different areas. Due to the varying population compositions and competitor strategies in each area, the average sales differ. As a true

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manager, it is difficult for him to select the best salesman. He decides to assign each salesman to an area with identical conditions. The report on the average sales of each salesman in that area gives the desired result. He can then plan the type of training to provide to other salesmen.

The application of the average can also be applied to the performance of students in different sections of the same stream under normal conditions. Share prices change over time, and companies quote average prices for reference. The travel time taken to reach the office from home varies daily, and we leave home based on the average time taken. The average life expectancy indicates the efforts made by the government towards healthcare. A higher value suggests excellent work by the government in the field of healthcare. It also helps compare the position of the country with respect to other countries in this field.

The position of the mean with respect to the median will indicate whether the distribution of values is normal, negatively skewed, or positively skewed. If the mean is less than the median, it is negatively skewed. If the mean is greater than the median, it is positively skewed.

Suppose we want to introduce a masala product with three ingredients: A, B, and C. The cost per gram of these ingredients is ₹5, ₹10, and ₹8, respectively. The product requires 2 grams of ingredient A, 5 grams of ingredient B, and 3 grams of ingredient C. The ingredient cost for 10 grams of masala will be ₹84 $\{A - (2 \times 5) + B - (5 \times 10) + C - (3 \times 8) = 84\}$. Adding an operational cost of ₹16 for 10 grams and a profit margin of 20%, the total cost for 10 grams will be ₹120. In this case, the average cost per gram of ingredient would be ₹12, based on the weighted average.

The grades given to students by Universities are also based on weighted averages, where different subjects carry different weights. The Nifty Index is a combination of the weighted average of the top fifty companies based on their market capitalization, where the number of shares held by the company plays a role in the weight. Other well-known applications of the mean include *average monthly family expenses, average distance covered per liter of petrol or diesel, and average time taken to finish a unit of product by a standard workman.*

A manufacturer has a machine that produces products ranging within 14 units to 18 units, with a mean value of 16 units. This implies $6 \text{ Sigma} = 4$, so $\text{Sigma} = 2/3$. Suppose the consumer rejects the product if its value is below 15 or above 17.5. Under existing conditions, the rejection percentage on the lower side will be 6.68% and on the upper side 1.22%, totaling to 7.9%. With the help of standard deviation, the manufacturer can set the mean such that the percentage of product rejection is reduced. The rejection percentage can be reduced to 5% by shifting the mean to 16.3, which is always possible through machine adjustment.

There are situations where the average is not a suitable measure for decision-making. Suppose a manager has to promote one of two employees and has the following performance index for the last five years:

- Employee A: 17, 16, 21, 25, 26

- Employee B: 29, 27, 21, 17, 16

The average performance index for Employee A is 21, and for Employee B is 22. Employee B should not be selected based solely on the average. His performance index is gradually decreasing, whereas Employee A's performance index is increasing. Therefore, Employee A should be selected. The trend plays an important role in this decision.

A company recruits employees over the last ten years as follows: 30, 32, 28, 40, 39, 36, 35, 37, 34, 34. This indicates that the company recruits an average of 34.5 employees per year. However, it should be 34 or 35 and cannot be 34.5 in reality. This is similar to saying that the number of children in a household is 2.5. In these cases, reality plays a significant role.

Weighted Average

For example, suppose a Company makes 3 products X, Y and Z. They are expected to yield sales in the ratio 2:2:1. Actual contributions from X, Y and Z were found to be ₹1,00,000, ₹50,000 and ₹50,000 respectively and 5,000 units in aggregate were sold. The weighted average contribution margin is $(1,00,000 \times 2 + 50,000 \times 2 + 50,000 \times 1) / (3,50,000 / 5,000 = 70)$. This implies weighted average contribution margin is ₹70/unit.

Further if the company has fixed cost as ₹4,20,000, then the number of units to be sold to get brake even point is given by $\text{₹}4,20,000/70 = \text{₹}6,000$. Weighted average is used by stock investors to trace the cost basis of shares bought at different times. A wise investor will always compare EPS (earnings per share) metric of different company's share for investment. Therefore it is very important to know the correct way of calculating the EPS. Weighted average plays an important role in the calculation. The method is as follows.

A company as on January 1st, 2024, has 1,00,000 outstanding shares and issues an additional of 50,000 shares as on July 1st, 2024. The EPS is ₹1.25/share, calculated as follows. $(1,00,000 \times 12/12) + (50,000 \times 6/12) = \text{₹}1,25,000/1,00,000 = \text{₹}1.25$ for the year 2024. Further weighted average is used to calculate Portfolio Returns using allocation of assets as weights. Weighted average cost accounting is used to determine the cost of goods sold and value of ending inventory. Weighted average cost of capital is calculated by averaging the rate of all companies' sources of capital using proportion of each source as weight. This helps the investor to know the minimum rate of return.

Geometric Mean

Geometric Mean (GM) is another measure of central tendency of the distributions. It is the 'nth' root of products of 'n' variables. For example, GM of 8, 27, and 64 is 3rd root of $8 \times 27 \times 64 = 24 (2 \times 3 \times 4)$. Main advantage is that it gives low weight to extreme values and high weight to low values. It is the best measure of average for skewed distributions. Further, it is not affected by extreme values. In general it is used to calculate average of ratios, percentages and rates of increase or decrease. Construction of index number involve GM as it gives less weight to large numbers and more weight to smaller numbers. For an investment of ₹2,00,000 with interest rate of 6% in the first year, 8%

interest second year and 10% in the third year, the average rate of interest is approximately 8.64% and not arithmetic mean of 6, 8 and 10 which is 8. Calculation of the average rate of interest does not require investment amount. It is given by $(1+0.06)(1+0.08)(1+0.10) = 0.0864$.

If rates of interest varies over years, then arithmetic mean will not be the actual rate of interest per year. This method of calculation is more useful if the investment amount is very high and for a longer period. We can compare different investment options with the help of Geometric average return without knowing the value of each, especially with respect to foreign currency investments.

The Compounded Annual Growth Rate (GAGR) is based on Geometric mean. GM helps to assess the return and growth. The movement of stock indices and financial securities can be predicted as they deal with percentages and growth rates.

The GM and Statistical Threshold Value (STV) is calculated from a number of generic E-Coli that causes infection, present in water samples. STV is a measure of variability for water distributions. GM is used to average the bacterial growth in microbiology. Bacteria concentration levels vary from 10 to 10,000 fold over a given period of time in lognormal distribution of pharmacokinetic data. GM is useful in analyzing environmental chemicals in blood or urine. Their distribution is skewed and hence GM is the best average. GM summarizes disease incidence rates or exposure levels in epidemiological studies.

In Health Statistics, annual growth rate of cancer incidence across different regions is calculated using GM. Accurate relative magnitudes of mortality rates between two populations for overall health status factors such as life expectancy, disease prevailing, access to healthcare system etc., to construct an index. GM is more useful in studying the spread of any viral infection such as Covid-19 and to estimate the average growth rate.

Book Review

Think Again: The Power of Knowing What You Don't Know by Adam Grant

Published by: Viking

- Reviewer: S. Sathyanarayana

JEL Classification Code: Y30

In “Think Again: The Power of Knowing What You Don't Know,” Adam Grant, organisational psychologist, and bestselling author delivers a timely and thought-provoking exploration of the importance of intellectual humility in an age marked by uncertainty and rapid change. Released in 2021, this insightful work serves as a much-needed antidote to the pitfalls of overconfidence and closed-mindedness that often hinder individual and organisational progress.

At its core, “Think Again” challenges readers to reassess their beliefs, question their assumptions, and embrace a mindset of continuous learning and growth. Drawing upon a rich tapestry of research from psychology, sociology, and cognitive science, Grant argues that the ability to “think again” is not only a hallmark of intellectual curiosity but also a fundamental driver of innovation and adaptability.

One of the book's central tenets is the concept of “rethinking,” which entails actively seeking out new information, entertaining opposing viewpoints, and being willing to revise one's opinions considering evidence. Through compelling anecdotes and real-world examples, Grant demonstrates how individuals and organisations that prioritise rethinking are better equipped to navigate complexity, mitigate risk, and seize emerging opportunities.

Moreover, “Think Again” sheds light on the cognitive biases and social pressures that often impede rational decision-making and hinder intellectual growth. Grant explores phenomena such as confirmation bias, motivated reasoning, and groupthink, highlighting the importance of cultivating self-awareness and cognitive flexibility to overcome these obstacles.

Another key theme in “Think Again” is the role of constructive feedback and dissent in fostering innovation and excellence. Grant argues that environments characterised by psychological safety and a culture of respectful disagreement are fertile grounds for creativity and problem-solving. By embracing dissenting voices and soliciting diverse perspectives, individuals and organisations can challenge conventional wisdom, uncover blind spots, and drive meaningful change.

Besides, “Think Again” offers practical strategies for cultivating a mindset of continuous learning and adaptation. Grant provides actionable advice on how to become a more effective re-thinker, including

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techniques for soliciting feedback, fostering intellectual humility, and reframing failure as an opportunity for growth.

In addition to its exploration of intellectual humility and the value of rethinking, “Think Again” also explores into the concept of unlearning. Grant argues that in an era marked by rapid technological advancements and paradigm shifts, the ability to unlearn outdated knowledge and habits is just as crucial as acquiring new skills and insights. By shedding the constraints of obsolete thinking patterns, individuals and organisations can adapt more readily to change and embrace innovation with open minds.

Furthermore, “Think Again” emphasises the importance of empathy and perspective-taking in fostering meaningful dialogue and collaboration. Grant emphasises the need for active listening and genuine curiosity when engaging with others, particularly those who hold divergent viewpoints. Through empathetic communication and a willingness to see the world through others’ eyes, individuals can bridge divides, build trust, and forge mutually beneficial relationships based on mutual respect and understanding.

“Think Again” highlights the role of psychological resilience in navigating uncertainty and overcoming setbacks. Grant acknowledges that the process of rethinking can be daunting, as it requires confronting uncertainty and vulnerability. However, he argues that by embracing a growth mindset and reframing challenges as opportunities for learning and self-improvement, individuals can cultivate the resilience needed to persevere in the face of adversity and emerge stronger on the other side.

Additionally, “Think Again” explores the intersection of ethics and decision-making, urging readers to consider the broader implications of their choices on society and future generations. Grant challenges conventional notions of success based solely on individual achievement or profit maximisation, advocating for a more holistic approach that prioritises ethical considerations and social responsibility. By aligning personal and organisational values with broader societal goals, individuals can contribute to a more sustainable and equitable future for all.

In summary, “Think Again” is a tour de force of intellectual inquiry that challenges readers to confront their assumptions, expand their thinking, and embrace uncertainty with courage and curiosity. Adam Grant’s engaging prose, coupled with his rigorous research and insightful analysis, makes this book a must-read for anyone seeking to thrive in an increasingly complex and dynamic world. Whether you are a business leader, educator, policymaker, or simply a lifelong learner, the lessons gleaned from “Think Again” are sure to inspire reflection, spark dialogue, and catalyse positive change.

Book Review

Winning

by Jack Welch and Suzy Welch

Published by: Harper Business

Year of Publication: 2005

-Reviewer: Hema Harsha

JEL Classification Code: Y30

An organization's success is attributed to many components right from the vision, to its leaders, strategies, processes and people. An organization culture which enables a business to win and thrive becomes a benchmark for others to emulate. Leadership narratives become the beacon for generations to idealize and follow.

“Winning” is a comprehensive guide on business leadership and management written by Jack Welch, the former CEO of General Electric (GE), with contributions from his wife, Suzy Welch. The book explores Jack Welch's vast experience and practical wisdom gained from his successful tenure at GE, offering discernments into what it takes to succeed in the corporate world. It is written in a straightforward, conversational style. Welch's no-nonsense approach and candid tone makes the book engaging and accessible. The use of real-life examples and anecdotes from his time at GE adds depth and authenticity to the advice given.

The book is divided into four main sections:

In the first section, **Underneath it All**, the author lays the groundwork for the book, discussing the importance of mission, values, and candor in business. He emphasizes the necessity of a clear, straightforward mission and values that resonate throughout the organization. A culture of openness is critical to an organization's success, as it provides a platform for honest communication fostering better decision-making and innovation. Winning leaders invest where the payback is high and thus they cut down on the losses in every other area; and one such area where payback is high is 'Differentiation'. With numerous examples, the author highlights how Differentiation brings out the best in people while fostering informed decisions, greater transparency, and a more dynamic work environment.

The second section, **Your Company** delves into the key elements of running a company, including leadership, hiring, people management, change and crisis management. Practical advice on how to build a winning team, the importance of differentiating between top performers and underperformers, and the role of leaders in driving company success is narrated. Emphasis is given to the need for leaders to be decisive, transparent, and supportive of their teams. Leaders should be willing to make tough calls, reward performance, and address underperformance promptly. The eight rules for an effective leader highlights how the relentless effort of a leader in building his/her team culminates in living and

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breathing the vision of the organization. The author iterates how money, recognition and training are the mechanisms which can motivate and retain talent.

In the third section, **Your Competition**, Welch explores the competitive landscape for an organization, focusing on how to beat the competition. The section covers strategic planning and execution, stressing the need for simplicity and adaptability in strategy. The significance of competitive advantage, the importance of understanding market dynamics, and the need for companies to continuously innovate is highlighted. In the chapter 'Budgeting', by simply reinventing the wheel of right budgeting, winning will be an easy outcome for an organization is explored. The author also touches on how business growth can happen through two processes, either by starting something new or mergers and acquisitions, and provides inputs on how to handle such opportunities effectively.

The final section **Your Career**, is more personal, offering advice to individuals on how to manage their careers. The author addresses career planning, work-life balance, and the importance of integrity and authenticity in the process. Guidance on navigating office politics, handling job transitions, and finding fulfilment in one's work is revelling. The work-life Balance chapter throws up a reality check with perspectives of a boss against what one perceives one's own work-life balance to be; making suggestions to get the process right through observation, exploration and experience.

This book is a must-read for anyone interested in business leadership and management and specifically management students. It provides a comprehensive guide to building successful teams, creating competitive strategies, and navigating the complexities of the corporate world. Welch's experience and insights make the book an invaluable resource for business professionals at all levels. The book is a treasure trove of practical advice and strategies that can be implemented in any organization to drive success. Personal experience of the author in strategizing, leadership and career development provide a solid foundation for those looking to advance in their careers. With the real-world perspective on business operations and leadership, complementing academic theories and concepts, the book is a compelling and insightful guide that captures the essence of what it takes to succeed in the business world.

Book Review

Investments: Analysis and Management by Gerald R. Jensen and Charles P. Jones

Published by: Wiley

-Reviewer: S. Sathyanarayana

JEL Classification Code: Y30

“C.P. Jones Investments” by Gerald R. Jensen and Charles P. Jones is a thorough and comprehensive guide that covers a wide array of investment topics, providing readers with a robust foundation in the principles and practices of investing. The book begins by defining investments and emphasizing their importance in financial planning. It explores various types of investment vehicles, such as stocks, bonds, mutual funds, and real estate, detailing the characteristics, benefits, and drawbacks of each. This initial groundwork is essential for readers new to investing, offering a clear understanding of the different options available and how they align with individual financial goals.

Authors delve into the economic, political, and regulatory environments that impact investments, linking macroeconomic factors like inflation, interest rates, and fiscal policies to market performance. This contextual understanding is crucial for making informed investment decisions. The book then explains the functioning of financial markets and the instruments traded within them, covering primary and secondary markets, stock exchanges, and over-the-counter markets. This section demystifies the complexities of market operations and trading processes, which is invaluable for both novice and experienced investors.

Authors discuss market indices and the Efficient Market Hypothesis (EMH), encouraging readers to critically evaluate market performance measurements and the notion of market efficiency. Risk and return, fundamental concepts in investing, are examined in detail, with explanations on different types of risks, their measurements, and the relationship between risk and return. This is followed by an introduction to Modern Portfolio Theory (MPT) and diversification, providing practical guidelines for constructing efficient portfolios.

This book also covers various asset pricing models, such as the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT), explaining their use in determining the expected return of an asset. This theoretical framework is complemented by a practical focus on equity markets and stock valuation techniques, equipping readers with the tools needed to assess the intrinsic value of companies.

The book includes an in-depth exploration of fixed-income securities, such as bonds, discussing their pricing, yields, and types. This knowledge is essential for diversifying investment portfolios. Derivatives, including options, futures, and swaps, are also introduced, with explanations on how they are used for hedging and speculative purposes. These complex instruments are presented in a manner that makes them accessible even to those new to derivatives.

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Mutual funds, Exchange-Traded Funds (ETFs), and other investment companies are examined, highlighting their structure, benefits, and evaluation methods. This is particularly useful for individual investors looking to diversify their holdings through these popular investment vehicles. The field of behavioural finance is also covered, offering insights into how psychological factors and biases influence investment decisions, and providing strategies to mitigate these biases.

The book addresses global investing, discussing the opportunities and challenges of international markets, including foreign exchange risk and global economic factors. This section is crucial for investors looking to diversify internationally. Finally, the practical aspects of investment planning and portfolio management are covered, with topics such as setting investment objectives, asset allocation, and performance evaluation. This practical guidance ties together the theoretical concepts discussed throughout the book, providing a roadmap for effective investment planning and control.

Educational Value: The book's methodical approach to explaining complex investment concepts makes it an excellent educational resource. It is particularly well-suited for students and newcomers to finance, providing a clear and structured learning path.

Practical Applications: By combining theoretical frameworks with real-world examples and practical guidelines, Jones ensures that readers can apply what they learn to actual investment scenarios. This balance enhances the book's relevance and utility.

Comprehensive Coverage: Covering everything from the basics of different investment vehicles to the intricacies of global investing and behavioural finance, the book serves as a one-stop resource. This breadth of coverage is beneficial for readers seeking a holistic view of the field.

Clarity and Accessibility: Jones's ability to break down complex topics into understandable segments is one of the book's greatest strengths. This clarity makes the material accessible to a wide audience, regardless of prior knowledge or experience.

Focus on Strategic Thinking: The emphasis on investment planning and portfolio management encourages strategic thinking. Readers are guided on how to set objectives, evaluate risks, and measure performance, fostering a proactive approach to investing.

Insightful Analysis: The critical analysis of market efficiency and behavioural finance provides readers with a deeper understanding of market dynamics and investor behaviour. This insight is invaluable for developing a more nuanced investment strategy.

In summary, "Jensen and Jones' Investments" is not just a textbook but a comprehensive guide that equips readers with the knowledge and skills necessary to navigate the complex world of investments effectively. It is a must-read for anyone serious about mastering the art and science of investing.