



SADHU VASWANI INSTITUTE OF MANAGEMENT STUDIES FOR GIRLS

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Dr. B. H. Nanwani
Director

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CRITERION – III

KEY INDICATOR	3.3 Research Publications by Teachers
METRIC NO.	3.3.2- Research papers published per teacher in the Journals notified on UGC care list

[January 2023 to December 2023]

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1. A Study of Work Values of Self-Financed School Teachers in Pune City

The screenshot shows a web browser displaying the UGC-CARE List search results. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/SearchList>. The page title is "UGC-CARE List". A search bar contains the text "2147-6454". Below the search bar, a message states "You searched for '2147-6454'. Total Journals : 1". A table with 7 columns is displayed: Sr.No., Journal Title, Publisher, ISSN, E-ISSN, UGC-CARE coverage years, and Details. The table contains one entry with Sr.No. 1, Journal Title "The Online Journal of Distance Education and e-Learning", Publisher "The Association of Science, Education and Technology", ISSN "NA", E-ISSN "2147-6454", UGC-CARE coverage years "from June-2019 to July-2023", and Details "Discontinued from July 2023". Below the table, it says "Showing 1 to 1 of 1 entries" with "Previous" and "Next" navigation buttons. The footer of the page contains "Copyright © 2024 Savitribai Phule Pune University. All rights reserved. | Disclaimer". The Windows taskbar at the bottom shows the date and time as 02:25 PM on 08-07-2024.

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	The Online Journal of Distance Education and e-Learning	The Association of Science, Education and Technology	NA	2147-6454	from June-2019 to July-2023	Discontinued from July 2023

Journal- <https://www.tojdel.net/>



The Online Journal of Distance
Education and e Learning

CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

A STUDY OF WORK VALUES OF SELF-FINANCED SCHOOL TEACHERS IN PUNE CITY

Authored By

Dr.B.H.Nanwani

Director, Sadhu Vaswani Institute of Management for Girls Pune

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A handwritten signature in black ink, appearing to read 'Aytakin iSMAN', is positioned above the name of the Editor in Chief.

Prof Dr. Aytakin iSMAN
Editor in Chief

A STUDY OF WORK VALUES OF SELF-FINANCED SCHOOL TEACHERS IN PUNE CITY

Dr. B.H. Nanwani

Director

Sadhu Vaswani Institute of Management Studies for Girls Pune.

director@svims-pune.edu.in

Mr. Sohail Rajjak Mulani

Ph.D Research Scholar

Sadhu Vaswani Institute of Management Studies for Girls Pune.

sohailmulani458@gmail.com

ABSTRACT

It is very important for any organization to have satisfied (with their jobs) workforce. There are many factors which leads to job satisfaction some of which are growth opportunities, healthy relationships with colleagues and boss, healthy work culture. Past research showed that congruence between organizational work values and those of individual is also important for employees to remain satisfied in with jobs. Therefore, it becomes important for organization to constantly review work value congruence. The effect of work values of schools and their impact on job satisfaction of teachers is yet to be discovered. The purpose of this study is to investigate if work values have any influence on job satisfaction among teachers of self-finance schools in Pune. 89 responses received from teachers from various schools were analysed in SPSS. Structured questionnaire was used to collect responses. Total 70 questions were there in the questionnaire. Questions designed to capture perception of work values and job satisfaction were designed using Likert's five points scale. The result showed that higher the work value perception higher will be the job satisfaction. Future scope for research is discussed in the paper.

Keywords: Self-Financed Schools, Work Values, Job Satisfactions, Teachers

Introduction

There is a severe lack of talent on the job market, and 75% of all companies are having trouble hiring . Compared to the 16 years before, this is a big change. The COVID-19 pandemic has made the job market less stable, which makes it harder for organisations to hire people who are a good fit or even to hire people at all. There are a lot of open jobs in a lot of fields right now, and it seems like new jobs are coming up faster than people can fill them. This shows that companies need to change how they hire people. It's no longer just the job candidate's job to sell himself or herself to the company, but also the company's job to sell itself to the candidate. These kinds of attitudes aren't new, and neither is the idea that there is a talent shortage, which is often called a "battle for talent." But since the competition for talent is likely to get worse in the near future, even companies that aren't having trouble hiring people right now should rethink how they find and keep good workers. Determining work values of employees of any organization is important. If self- work values match with organizational values then there is possibility of high job satisfaction. This study is intended to identify if work value has any influence over job satisfaction.

Defining Values

Values are judgments that one make in a given situation and thus values are signs of creation of future that one wants to make for him/her or others. Way back in 1963 Allport defines values as "deeply propiarte dispositions." Researchers and psychologists say that a person's actions often show what he or she values, and studies have shown that this is true. Zytowski didn't bring up the idea of work values in the academic world until the early 1970s (1970). Before he did his work, there was no clear way to describe what work values were. Work values are the personal principles that someone thinks are important and guide how they act. Research has shown that values can be used to predict behaviour and can be a source of motivation. Brown and Associates (2002) say that work values are part of an individual's set of values, and Kaygin and Culluce (2013) say that a person's values become the values of their work. Zytowski (1970) argued that work values were things like interest, motivation, work needs, and satisfaction at work. The discussion about these dimensions came down to figuring out what the person needs from the inside and what they need from the outside, which they later called intrinsic motivation and extrinsic motivation.

These values become the person's goals, both inside and outside of themselves, and people go into different careers based on their values. Work meets a person's physical and psychological needs, such as growth, autonomy, competence, and relatedness. Work values are what a person thinks is most important to do at work, and this personal value affects the person's expectations of the work. Studies have shown that a person's work

values are the compass that tells them what job to take, and people are more likely to work for private businesses than for the government.

Work values are an important factor in why people choose to work in the private sector. Studies have shown a link between work values and job satisfaction, commitment, and involvement. Van-Vianen and Dijk (2007) showed that one reason for high job turnover is that the work employees are given doesn't match up with their work values. Liu et al. (2020) showed that when work values and tasks are in sync, job satisfaction goes up and the desire to leave goes down. Caprino (2016) found that many people leave their jobs or organisations due to their work values not matching up with the values of the workplace or the work they are given defining Work Values

Objectives of the study

1. To study the work values of school teachers in Pune city.
2. To study the relationship between work values and job satisfaction among school teachers.

Literature Review

According to Pryce (2014) People's work values are distinct. They determine how much employment and job-related traits matter to people throughout their lives. Work values come from the same value systems that guide people through life, according to studies. Hence, they are a subset of general life values influenced by inherent and extrinsic factors. It found that managers' work values differ from those of frontline hospitality workers, while frontline workers' perspectives of their work are similar. The managerial staff prioritised power and authority and disregarded social norms.

According to Consiglio (2017) work values are the criteria used to evaluate work and the workplace. Personal preferences, morality, and societal conventions are examples. Several taxonomies and approaches to quantify job value emerged from this wide notion. Schwartz's idea of essential personal values, a well-known foundation for life values, was used to quantify job values. Fixing work value idea issues. The work values scale shows that individuals desire from their occupations. Dividing these fundamental aims is crucial to encouraging employees to work and distinguishing successful employers from bad ones. Together with these basic aims, the employer branding framework should include job or organization-specific factors. Work orientations more fully consider these distinctive aspects of a job or organisation.

Abun, et al (2021). This study examined how work values affect job engagement. Reviewing the literature and discussing extrinsic and intrinsic labour values enriched the discussion on this issue. The research was for Holy Word Colleges staff in Ilocos, Philippines. Weighted mean and Pearson r Correlation were used to analyse questionnaire data. The weighted mean calculated extrinsic, intrinsic, and work engagement levels. Work values and workplace engagement were examined using Pearson coefficients. Holy Word Colleges staff respect both ideals and are highly engaged, according to the poll. Finally, work values were linked to job engagement. The theory is accepted.

Work values, performance, and devotion have been studied. These studies showed that work values affect profession choice, job satisfaction, and output. According to these studies, people choose employment based on their work values, which boosts performance, commitment, and job satisfaction. Work ideals and outcomes are worldwide. Work values predict job performance. Work values, job happiness, and organisational commitment of Chinese employees were studied similarly. Work values affect job satisfaction and organisational commitment, the study found. Gesthuizen et al. (2019) supported these findings. The study found that work values affected job satisfaction and performance.

Arora, et al (2020) reported that today's workers are from diverse generations, making the workplace more challenging. Employers must know how to handle younger and older staff. This article explores Gen Z students' job preferences and work attitudes. Gender and course type (UG/PG) are also examined for work values. 264 vocational college students were asked what was vital at work and what created an ideal workplace in a questionnaire. The Lyons Work Values Survey (LWVS) measured instrumental, cognitive, altruistic, and prestige values using a redesigned 25-item scale. Study demonstrates that students prioritise cognitive and practical job values over reputation and altruism. Work values varied by gender and UG/PG course. The findings will help firms create programmes and approaches to include people to boost productivity.

Chen& Zhang (2021)evaluated post-1990s IT workers' work values, organisational citizenship behaviour (OCB), and performance. 354 post-1990s IT professionals were polled and a hypothetical model assessed using structural equation models, multiple regression analysis, and other statistical approaches. The research found

that work values positively impact job performance and that OCB partially mediates this link. Following work values helps IT professionals achieve organisational goals and enhance OCB. The findings may be used to study the intergenerational theory of work values, industrial contexts, and the organisation and management practises of IT workers who started after the 1990s. IT businesses should recognise that various generations have varied work values and offer incentives to improve OCB. Human resource planning, talent introduction, skill training, and performance evaluation should also measure post-1990 workers' work values. Finally, they should promote corporate culture and personal values to assist employees develop company-beneficial work values. This will help them work harder and better, helping the company achieve its goals.

Fute, et al. (2022) opine that teacher job satisfaction affects workplace well-being and performance. Online classes and longer teaching hours due to COVID-19 may be impacting work satisfaction. It's crucial to examine job satisfaction predictor and how they've affected teaching throughout the COVID-19 epidemic. This survey examined how work values and work engagement affect job satisfaction among 2886 Chinese teachers. The SPSS 25 and PROCESS for SPSS software study demonstrated a high influence of teachers' work values on job satisfaction ($\beta = 0.203$, $SE = 0.203$, $p < 0.01$) and through work engagement ($\beta = 0.204$, $SE = 0.017$, $p < 0.01$). Work values highly linked with work engagement ($r = 0.499$, $p < 0.01$) and job satisfaction ($r = 0.360$, $p < 0.01$). During the COVID-19 epidemic, Chinese teachers' work values and involvement predicted job happiness.

Hypotheses

Based on findings of Literature review and Pilot study following hypotheses were framed in the study.

H₁- Difference in Work Values (Difference between perceived organizational Work Values and Individual Work Values) and Job satisfaction are positively correlated.

Research Methodology

Descriptive research design was adopted for this study.

Data Sources: This study will be based on both primary and secondary information.

Primary Data- Primary is collected using the structured questionnaire. This questionnaire was found reliable during the pilot study.

Instrument for data collection

The instrument to collect data was a structured questionnaire. This questionnaire was containing 81 items. The questionnaire was including 4 subscales.

Work Values Subscale- This measure (subscale) was obtained from the research work of Cennamo (2008). It included 24 items. This scale allowed comparing the work values of individual employee and work values provided by the organization in perception of employees. For each value (item of this subscale) respondents were asked to rate:

- (1) "To what extent is each item a top priority for you in your work?" (to provide individual values, 'I' values).
- (2) "To what extent do you feel your organisation provides you with each item?" (a measure of perceived organisational values, O values).

Job Satisfaction Subscale- This subscale was adopted from the study of Warr et al (1979). It included total 15 items. All were rated on 5 point likert's scale. Where 1 represented 'Extremely Dissatisfied' and 5 meant 'Extremely Satisfied'.

In the last segment of the questionnaire; questions to collect demographic profile of the respondents were included.

Secondary data- Secondary information was collected by reviewing Company Web sites, research papers, publications, newspapers.

Sampling Frame-

School teachers from Pune city formed the population for this study. More than 130 teachers were approached and requested to respond to the questionnaire. Out of these 95 employees responded to the questionnaire. Out of these 95 responses 6 responses were deleted because they were having more than 7 (10% of all the questions) missing values. This resulted in total 89 sample size for final analysis.

Data Analysis and Results

Cronbach's Alpha	N of Items
.915	70

Table no. 1 Reliability Statistics

Since the Chronbach’s alpha coefficient is greater than 0.7 the questionnaire was found reliable.

Demographic Characteristic		Frequency	Per cent
Age	24-28	14	16%
	29-33	26	29%
	34-39	27	30%
	40 and above	22	25%
	Total	89	
income	1-2 lakh	10	11%
	2-4 lakh	28	31%
	4-6 lakh	32	36%
	6-9 lakh	9	10%
	Above 9 lakhs	10	11%
	Total	89	
Gender	Female	52	58%
	Male	37	42%
	Total	89	
Work_Exp	0-1 year	16	18%
	1-3 years	20	22%
	3-6 years	29	33%
	6-9 Years	12	13%
	More than 9 years	12	13%
	Total	89	

Table no. 2- Respondents’ Profile

	N	Min.	Max.	Mean	Std. Deviation
Work Values of Employees (Individual Perception of Work Values)	89	1	5	3.75	0.998398
Perception of Work Values provided by the organization	89	1	5	3.52	0.937188
Job Satisfaction	89	1	5	3.27	1.0057

Table no. 3- Descriptive Statistics

From above table it can be observed that the mean for Individual perception of work values and that of Organizational work values subscales are greater 3.5 indicating relatively strong work values at the self-financed schools. Job satisfaction is also relatively high among teachers.

Hypotheses testing

H₁- Difference in Work Values (Difference between perceived organizational Work Values and Individual Work Values) and Job satisfaction are positively correlated.

This hypothesis is tested through Pearson’s correlations.

		Difference in work values	Job Satisfaction
Difference in work values	Pearson Correlation	1	.422(**)
	Sig. (2-tailed)		.000
	N	89	89
Job Satisfaction	Pearson Correlation	.422(**)	1
	Sig. (2-tailed)	.000	
	N	89	89

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table No. 4- Correlations

It can be observed from the table no.4 that Difference in work values (organization work values and individual work values) is significantly positively correlated with Job Satisfaction ($p < .01$ $p = .000$). Since p values for correlations are less than .01; we failed to accept the null hypotheses –

H_0 Difference in work values and Job Satisfaction are not significantly correlated
Therefore, we accept alternate hypothesis H_1 .

Conclusion and Scope for future work

As employee's perception of school work values exceed individual work values, his Job satisfaction also increases significantly.

The management of schools should regularly check the perception of work values of their teachers. This will help management to understand where school is falling short in providing the important work values perceived by most of the teachers. Management should try to exceed the organizational values than the perceived individual work values. If their School work value perception is increased than the individual values, the teachers become satisfied with their Jobs. Moreover, the teachers become committed to the school. This increases teachers' bonding with the school. Once teachers become committed, there are very few chances of teachers leaving their jobs to join other school. This will help management to stabilize their workforce. Stable workforce would be assets to any school.

Scope for future studies and Limitations

Future studies may include samples from other cities to explore the Work Value phenomenon in further depth. Longitudinal research may be conducted to discover the changes difference between perceived organizational work values and individual values. Such information will help in understanding the changes in organizational values-Individual values fit.

Reference

- Abun, D., Ruadap-Macaspac, L. G., Magallanes, T., Encarnacion, M. J., & Flores, N. (2021). Measuring the Work Values and work engagement of Employees: The Philippines Context. *Technium Soc. Sci. J.*, 18, 444.
- Arora, S., Dubey, V., & Vyas, S. (2020). Study of work values of Gen Z students. *International Journal of Technology and Globalisation*, 8(3-4), 240-265.
- Brown, D. & Associates (2002). *Career Choice and Development* (4th Ed.). New York: Jossey-Bass
- Caprino, K. (2016). If Your Values Clash with how you are working, You'll suffer: Here is how to fix that. *Forbes*. Retrieved from <https://www.forbes.com>
- Chen, J., & Zhang, Q. (2021). Work values and work performance of post-90s IT employees: The mediating effect of organizational citizenship behavior. In *E3S Web of Conferences* (Vol. 253, p. 02026). EDP Sciences.
- Consiglio, C., Cenciotti, R., Borgogni, L., Alessandri, G., and Schwartz, S. H. (2017). The WVal: a new measure of work values. *J. Career Assess.* 25, 405–422. doi: 10.1177/1069072716639691
- Fute, A., Oubibi, M., Sun, B., Zhou, Y., & Xiao, W. (2022). Work values predict job satisfaction among Chinese teachers during COVID-19: the mediation role of work engagement. *Sustainability*, 14(3), 1353.
- Gesthuizen, M., Kovarek, D. & Rapp, C. (2019). Extrinsic and Intrinsic Work Values: Findings on Equivalence in Different Cultural Contexts. *The Annals of the American Academy of Political and Social Science*, 682 (1), 201

- Kaygin, E. &Gulluce, A.C. (2013). The Relationship between Career Choice and Individual Values: A Case Study of a Turkish University. *International Journal of Humanities and Social Science*, 3 (3).
- Liu, K., Maoyan, S. & Wang, N. (2020). Work Values and Turnover Intention in Chinese New Generation Employees Based on Multiple Intermediaries. Paper Presented at 35th IBIMA Conference, Seville Spain
- Pryce, J. (2014). Work values: A formidable domain within the context of people's lives. *eTropic: electronic journal of studies in the Tropics*, 13(2).
- Van-Vianen, A.E.M. &Dijk, F.V. (2007). Work value fit and turnover intention: Same-source or different-source fit. *Journal of Managerial Psychology*, 22 (2), 188-202
- Zytowski, D.G. (1970). The Concept of Work Values. *The Career Development Quarterly*, 18,(3).

2. Case Study- Zensar Technologies' Content Marketing Strategy

The screenshot shows the UGC-CARE List search results page. The search criteria are "0972-0766", resulting in 1 journal entry. The table below lists the journal details:

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of the Asiatic Society of Mumbai (print only)	The Asiatic Society of Mumbai	0972-0766	NA	from June-2019 to Present	View

Showing 1 to 1 of 1 entries. Navigation: Previous 1 Next

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The screenshot shows the UGC-CARE List journal details page for the journal "Journal of the Asiatic Society of Mumbai (print only)". The details are as follows:

Journal Details	
Journal Title (in English Language)	Journal of the Asiatic Society of Mumbai (print only) (Current Table of Content)
Publication Language	English
Publisher	The Asiatic Society of Mumbai
ISSN	0972-0766
E-ISSN	NA
Discipline	Arts and Humanities
Subject	Arts and Humanities (all)
Focus Subject	General Arts and Humanities
UGC-CARE coverage years	from June-2019 to Present

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Journal- <https://www.asiaticsociety.org.in/journal/>



JOURNAL of
THE ASIATIC SOCIETY OF MUMBAI

CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

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CONTENT MARKETING STRATEGY**

Authored By

ज्ञान-विज्ञान विमुक्तये

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Editor in chief



CASE STUDY - ZENSAR TECHNOLOGIES' CONTENT MARKETING STRATEGY

Dr. B. H. Nanwani

Director, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Ms. Vaishali Patil

Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Zensar Technologies is a mid-sized B2B technology company that provides enterprise software solutions to large organizations. Rajan, a driven marketer, has just been promoted to Head of Marketing. Rajan believed content marketing held the secret to success and had lofty goals for changing the company's marketing initiatives.

Rajan put together a strong group of marketers who shared his enthusiasm for the potential of content marketing. Together, they developed a thorough content marketing plan to draw in, hold, and convert the target demographic. However, they immediately ran into several difficulties and roadblocks.

Despite having a strong product portfolio, the company's marketing team struggled to generate leads and drive conversions through traditional marketing channels like email campaigns and paid advertising. To address this issue, the marketing team launched a content marketing strategy focused on creating and sharing valuable, relevant, and consistent content to attract and retain a clearly defined audience - in this case, potential buyers of Zensar Technologies' software solutions.

DEFINING THE TARGET AUDIENCE

The first step in Zensar Technologies' content marketing strategy was to define its target audience. The marketing team conducted extensive research to identify their ideal customer persona - large organizations in specific industries like finance and healthcare that need enterprise software solutions. They also conducted surveys and analyzed data to understand the pain points and challenges these potential customers face.

The marketing team discovered that their target audience was struggling with various issues related to enterprise software solutions. For example, many companies found integrating new software with their existing systems difficult, resulting in data silos and inefficient workflows. Others were concerned about the high cost of enterprise software solutions and the need to justify their ROI to upper management.

Based on this research, the marketing team created a detailed buyer persona that included information about their target audience's demographics, job titles, responsibilities, challenges, and goals. They also used this information to create a content plan that would address the specific pain points and challenges faced by their target audience.

CONTENT CREATION

With their target audience identified and their pain points and challenges understood, the marketing team began creating various content types that would appeal to potential buyers. They completed blog posts, whitepapers, case studies, infographics, videos, and webinars that provided valuable insights and solutions related to enterprise software solutions.

For example, the marketing team created a series of blog posts that provided insights into the latest trends in enterprise software solutions and how to overcome common challenges faced by large organizations. They also created whitepapers that offered an in-depth analysis of industry-specific



issues and case studies that showcased the success stories of other companies that had implemented Zensar Technologies' software solutions.

In addition, the marketing team created video tutorials and webinars that provided practical tips and advice on how to get the most out of enterprise software solutions. These videos were designed to be informative and engaging, providing practical solutions that potential buyers could implement immediately.

The energy drinks brand Red Bull is renowned globally for its exceptional content marketing. They create and share high-quality movies, articles, and events; all focused on extreme sports, music, and adventure, by consistently producing exciting and thought-provoking content that aligns with their brand's values and lifestyle.

DISTRIBUTION AND PROMOTION

To ensure that their content reached their target audience, the marketing team used a variety of channels to distribute and promote their content. They used email newsletters, social media, guest blogging, and paid advertising to get their message out to potential buyers.

For example, the marketing team sent out regular email newsletters highlighting the latest blog posts, whitepapers, and case studies, encouraging readers to share the content on social media. They also used paid advertising on social media platforms like LinkedIn to reach their target audience and promote their content.

In addition, the marketing team leveraged their sales team's network to reach out to potential buyers and share relevant content with them. The sales team used the content to establish themselves as trusted advisors to potential buyers, providing valuable insights and solutions that helped build stronger relationships with potential customers.

MEASUREMENT AND OPTIMIZATION

To measure the effectiveness of their content marketing strategy, the marketing team used various metrics to track their content's performance. They used website traffic, lead generation, engagement, and conversions to track the effectiveness of their content, and As the content marketing strategy began to take shape, the team encountered some challenges. One of the key challenges was creating content that was not only informative and valuable but also engaging and visually appealing. The team realized that simply writing long-form blog posts and whitepapers was not enough to capture the attention of their target audience.

To overcome this challenge, the team began experimenting with different types of content, including videos, infographics, and interactive content. They found that visual content was much more effective at grabbing the attention of their target audience and keeping them engaged. For example, they created short videos that explained complex concepts in a simple and easy-to-understand way and infographics that visually represented data and statistics.

Another challenge the team faced was getting buy-in from other departments within the company. The content marketing strategy was a new approach for Zensar Technologies, and some stakeholders were initially skeptical about its potential impact on the company's bottom line.

As the content marketing strategy continued evolving, the team realized they needed to invest in new tools and technologies to scale their efforts. They began to use marketing automation software to streamline their lead generation and nurturing processes and to manage their email campaigns more effectively. They also invested in analytics tools to gain deeper insights into website traffic, user behavior, and content performance.



One of the key benefits of the content marketing strategy was its long-term impact on the company's brand and reputation. By consistently producing high-quality content that addressed the needs and challenges of their target audience, Zensar Technologies was able to build a strong and positive brand image in the minds of potential buyers. It helped to differentiate the company from its competitors and positioned it as a thought leader in its industry.

The content marketing strategy was critical to Zensar Technologies' growth and success. By focusing on the needs and challenges of their target audience, creating high-quality content, and leveraging data to optimize their strategy, the marketing team was able to generate significant results and drive business growth.

Zensar Technologies also realized that not all content was created equal. While some pieces of content were well-received and generated a lot of traffic and engagement, others fell flat. It led the marketing team to conduct further research and analysis to understand why certain pieces of content performed better than others.

Their research discovered that highly visual content included real-world examples and provided actionable insights that were more likely to be shared and engaged with by their target audience. They also found that content aligned with their buyer persona's needs and interests tended to perform better than more general content.

Based on these insights, the marketing team adjusted their content development strategy to create more visually appealing material with practical examples and useful information. They also ensured that the content was tailored to the needs and preferences of their target audience.

The marketing team has been trying new ways to keep its content engaging and up-to-date. They have experimented with various formats, such as podcasts and interactive quizzes. Additionally, they have expanded their distribution channels to include platforms like Reddit and Medium to reach a wider audience.

As a result of these adjustments, Zensar Technologies's content marketing strategy continued to generate impressive results. Their website traffic, lead generation, and conversions continued to increase, and their content received high engagement and social sharing.

Their content marketing strategy's success also positively impacted Zensar Technologies' overall brand reputation. As the company became known for producing high-quality and valuable content, it attracted more attention from industry influencers and thought leaders. By taking this action, Zensar Technologies strengthened its position as a leader in its industry and attracted more skilled leads and customers.

Overall, Zensar Technologies's content marketing strategy was a prime example of how a mid-sized B2B technology company can successfully use content marketing to drive business growth. By focusing on their target audience, creating high-quality content, and using data to optimize their strategy continually, they were able to generate impressive results and establish themselves as a thought leader in their industry.

As the marketing team continued to analyze and optimize their content marketing strategy, they identified a few areas for improvement. For example, they noticed that some of their blog posts received more engagement than others and wanted to understand why. To address this issue, they conducted a deeper analysis of their blog content, looking at factors like topic, format, and headline.

Based on these insights, the marketing team adjusted their content creation strategy, focusing on creating more content that addressed specific pain points and challenges and using formats that had proven successful. They also experimented with different types of content, such as interactive quizzes and calculators, to see if they could drive even more engagement and conversions.



Over time, the marketing team's content marketing strategy evolved and improved as they gained more insights and data about their target audience's needs and preferences. They also began incorporating new technologies and tactics, such as chatbots and personalization, to enhance the user experience and drive better results.

Today, Zensar Technologies continues to use content marketing as a key part of its overall marketing strategy, and they have seen sustained success in generating leads, driving conversions, and establishing itself as a thought leader in their industry. Their content marketing strategy serves as a model for other mid-sized B2B technology companies looking to leverage the power of content to grow their businesses.

QUESTIONS

1. Can you identify any challenges or obstacles the marketing team may have faced when implementing their content marketing strategy?
2. Why is it important to define a target audience before creating content for a content marketing strategy? What are some effective methods for identifying and understanding a target audience?
3. To evaluate the effectiveness of a content marketing strategy, what measures should a business consider? Which metrics should be tracked, and how can they enhance the plan over time?
4. Will Zensar sustain its success through a content creation strategy?

REFERENCES

1. Marketing, brand, content, and campaigns. (n.d.). Experience, Engineering, Engagement. Zensar.
2. Hennigan, L. (2023, July 17). Content marketing in 2023: The ultimate guide. Forbes Advisor.
3. How content marketing works - A brief guide. (2023, February 9). ContentMarketing.io.

3. Roadmap to Financial Planning

The screenshot shows the UGC-CARE List search results page. The search criteria are "2229-5348", resulting in 1 journal entry. The table below shows the search results:

Sl.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of Management and Entrepreneurship	Xavier Institute of Management and Entrepreneurship	2229-5348	NA	from October-2021 to Present	View

Showing 1 to 1 of 1 entries

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The screenshot shows the UGC-CARE List journal details page for the journal "Journal of Management and Entrepreneurship". The details are as follows:

Journal Details	
Journal Title (in English Language)	Journal of Management and Entrepreneurship
Publication Language	English
Publisher	Xavier Institute of Management and Entrepreneurship
ISSN	2229-5348
E-ISSN	NA
Discipline	Social Science
Subject	Business, Management and Accounting (all)
Focus Subject	General Business, Management and Accounting
UGC-CARE coverage years	from October-2021 to Present

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ROADMAP TO FINANCIAL PLANNING

Dr. B H Nanwani

Director, Sadhu Vaswani Institute of Management Studies for Girls.

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ROADMAP TO FINANCIAL PLANNING

Ms. Muskan Sadhwani, Student – MBA, Sadhu Vaswani Institute of Management Studies for Girls
Dr. B H Nanwani, Director, Sadhu Vaswani Institute of Management Studies for Girls.

ABSTRACT

Every earning individual – anywhere in the world, irrespective of their gender, age and income must do financial planning to ensure that the family does not face any financial difficulties and that sufficient corpus exists post their retirement. The individuals may be equal in all aspects, maybe even living next door, but their financial planning methods are entirely different. The risk appetite, varied age groups, income level, gender, are some of the factors that lead to a wide range of financial plans adopted by different individuals. This paper examines the factors to be kept in mind while devising a financial plan and also that should be avoided to ensure that we do not face financial instability in future. Case study method has been used to present the financial plan of a family. The background information was presented – demographic profile, existing assets and liabilities and their goals for the future. Keeping this in mind, it was suggested that they should opt for investments in instruments linked to market, so as to maximise the return as well as provide a high corpus to meet their long-term goals.

Key words: Financial Planning, Investment, CSF for Financial Plan, Retirement Planning

Introduction:

Financial planning is the process of creating a roadmap to achieve your financial goals. It involves analysing your current financial situation, identifying your financial goals, and developing a plan to help you achieve those goals. Financial planning takes into account your income, expenses, assets, liabilities, and investment strategies. The goal is to create a plan that maximizes your financial resources while minimizing financial risk.

There are several components of financial planning, including budgeting, investing, retirement planning, tax planning, and estate planning. Budgeting involves analysing your income and expenses to create a spending plan that helps you achieve your financial goals. Investing involves selecting appropriate investments based on your financial goals and risk tolerance. Retirement planning involves estimating your retirement income needs and developing a savings plan to achieve those needs. Tax planning involves identifying tax-efficient strategies to reduce your tax liability. Estate planning involves creating a plan to distribute your assets after your death and minimize estate taxes.

Overall, financial planning helps individuals and families achieve their financial goals and attain financial security. A well-crafted financial plan can help you save money, reduce financial stress, and provide peace of mind.

The following are the dos and don'ts in a financial plan Do's:

1. Set clear financial aims and goals: Smartly and clearly defining your short, medium and long-term financial goals. This may include saving for retirement, buying a house, or paying off long-term or short-term debts. Setting specific and measurable goals helps you stay focused and motivated.
2. Creating a budget: Develop a comprehensive budget that outlines your monthly income, expenses, and savings. Make sure to track your spending regularly and adjust your budget as needed to ensure you are living within your means and saving enough to meet your goals.
3. Building up of an emergency fund: Set up an emergency fund that covers at least 3-6 months of living expenses. This supplies a financial safety net in case of unexpected expenses, such as medical emergencies or job loss.

4. **Modify and mix your investments:** Invest in a diversified portfolio that includes a mix of stocks, bonds, and other asset classes. Diversification helps spread risk and can potentially increase returns over the long term.

5. **Minimize credits and debt:** Minimize high-interest debt, such as credit card debt, as it can significantly affect your financial well-being. Pay off debts with the highest interest rates first and avoid accumulating unnecessary debt.

Don'ts:

1. **Don't overspend:** Avoid overspending and living beyond your means. Stick to your budget and resist the temptation to splurge on unnecessary purchases or lifestyle inflation. Overspending can lead to debt and hinder your ability to achieve your financial goals.

2. **Do not neglect retirement savings:** Don't neglect saving for retirement. Start saving as early as possible and contribute regularly to retirement accounts such as 401(k) or IRA (Individual Retirement Account). Take advantage of employer-sponsored retirement plans and seek professional advice to ensure you are on track for a comfortable retirement.

3. **Prohibit ignorance of insurance needs:** Don't ignore insurance needs, such as health, life, disability, and property insurance. Adequate insurance coverage protects you and your family from unexpected financial setbacks and add peace of mind.

4. **Avoid taking impulsive decisions of investments:** Avoid making impulsive investment decisions based on short-term market fluctuations or hearsay. Develop a well-thought-out investment plan based on your financial goals, risk tolerance, and time horizon. Seek professional advice if needed.

5. **Ban the thought that financial education is not important:** Don't neglect the importance of financial education. Stay informed about personal finance concepts, investment strategies, and tax planning. Educate yourself and make informed financial decisions to ensure your financial plan is effective and aligned with your goals.

Literature Review:

"Factors Affecting Financial Planning: A Study of Indian Households" by R.K. Mishra and R. Singh (2019): This paper investigates the factors that affect financial planning among Indian households, using survey data from 1,000 households. The authors find that income level, education, and age are significant predictors of financial planning.

"Personal Financial Planning: A Study of Awareness and Perception among Indian Investors" by N. Radhika and P. Parthasarathy (2017): This study examines the level of awareness and perception of personal financial planning among Indian investors, using a survey of 300 respondents. The authors find that although awareness of financial planning is high, there are significant gaps in knowledge and understanding.

"Determinants of Personal Financial Planning: Evidence from India" by S. Jha and R. Jain (2015): This paper investigates the determinants of personal financial planning among Indian investors, using survey data from 300 respondents. The authors find that income level, education, and risk tolerance are significant predictors of financial planning behavior.

"An Empirical Study of Personal Financial Planning Behavior in India" by S. Pal and S. Mitra (2012): This study examines the financial planning behavior of Indian investors, using a survey of 200 respondents. The authors find that while investors are generally aware of the importance of financial planning, there are significant barriers to implementation, such as lack of time, knowledge, and access to financial products and services.

These research papers provide valuable insights into the factors that influence personal financial planning among Indian investors, as well as the challenges and opportunities for improving financial literacy and access to financial products and services.

Atodaria Zankhana, Sharma Ronikadevi (2019) conducted a study on Investment pattern of salaried class – A study of various investment options available. This study examined the choices made by an salaried individual. The method of data collection used was through the structured questionnaire and the descriptive method was used for analyzing the data. There are various alternatives for investments, which the individual must be aware of and opt for the right one from the alternatives. Also, making sure that all the aims and goals are properly attained through these investment plans for a secure future.

Ashly Lynn Joseph & Dr. M. Prakash (September 2014) conducted a Study on Preferred Investment Avenues among the people and factors considered for investments. This study was done on the basis of a structured questionnaire. Which came up to an analysis that numerous people are not willing to take risks for their income, and hence it has been noticed that many of them prefer to invest in bank deposits, insurance policies, post office savings, etc. Which are known to be safe and risk-free investments. The main principle of saving and investment for such individuals are “NO PAIN NO GAIN” policy. This investigation puts forward awareness among individuals about the various investment channels available and the factors that should be considered before investing.

Methodology:

Objective of Study:

1. To Study the Concept of Financial Planning
2. To study the investment pattern of an individual.

Case Study Method has been used to study the financial plan of an individual.

Profile of Mrs. & Mr. Malhotra

Mr. Raj Malhotra and his wife Mrs. Simran Malhotra live in Virar, near Mumbai. He works as Assistant Finance Manager with a leading manufacturing company, while Simran is Assistant Manager (Administration) in a logistics firm. They have a twelve-year-old son, Arnav and a nine-year daughter, Riya. Both have struggled in their careers, which prompted Raj to enrol and complete the Executive MBA a few years before. This professional qualification helped him to take up the managerial position. They don't have any investments except the house property that they acquired in the preceding year by availing home loan.

	Mr. Raj Malhotra	Mrs. Simran Malhotra
Age	40 years	38 years
Monthly Salary	₹ 1,50,000	₹ 90,000
Life Insurance	Yes Sum Assured – ₹ 5,00,000	Yes Sum Assured – ₹ 2,00,000

Other details:

Average Monthly Household expenses	₹ 50,000
Monthly education expense of children [including school fees, transport and activity fees]	₹ 16,000
Home Loan EMI	₹ 70,000
Annual Life Insurance premium	₹ 35,000
Home Loan	₹ 60,00,000

The couple is primarily concerned about repaying the huge home loan liability given the fact that the loan tenure will end near their planned retirement age.

They want to know if they will be able to repay the loan comfortably and opt for prepayment whenever they receive bonus/increments. Other concerns are planning for the higher education of their children.

At present, the couple has the following resources at their disposal:

Self-occupied house	₹ 90,00,000
Employee Provident Fund	₹ 10,00,000
Fixed Deposit	₹ 4,00,000
Savings Account	₹ 1,00,000

Discussion and Analysis:

After taking into consideration the assets and liabilities – the net worth of the family is ₹ 45,00,000. It may appear that the net worth is considerable, however, major chunk of it is in the form of house property, that will not be disposed off. Acquisition of Financial Assets will help to provide for achieving their long-term goals.

The total monthly salary amounts to ₹ 2,40,000 and the monthly expenses amount to ₹ 1,38,917 leaving a monthly surplus of ₹ 1,01,083. With proper planning this can be easily utilized to provide for their child's education and repayment of loan. The annual increment and bonus along with the monthly surplus will lead to accumulation of a good amount that can be successfully utilized to opt for pre-payment of Home Loan. If they choose to maintain the same EMI, then the loan can be paid off faster easing their worries in the run-up to their retirement.

Measures for tax planning:

1) Tax saving options under the Section 80 C of the Income Tax Act, 1961

Under Section 80 C the prevalent sections in Income Tax Act, 1961. It provides provisions to save up to Rs. 46,800 (assuming the highest slab of income tax) on the liability each year. This option for tax saving is the best saving avenues under the Income Tax Act, 1961 i.e. is investing in an equity linked saving scheme, mostly known as ELSS funds (Equity Linked Saving Scheme). In such type of funds there are dual benefits that of potential capital appreciation and tax-saving. Apart from ELSS Funds there are other funds in which they can invest. They are NSC – National Saving Certificate, Tax-Saving FD, etc. The tuition fees of their children is also covered in this section. The deductions under this type of investments are deductible up to a limit of ₹ 1,50,000. If the tuition fees is high – they can choose to invest in New Pension Scheme where deduction can be availed maximum upto ₹ 50,000.

2) Tax saving options under section 80 D of the Income Tax Act, 1961

The taxpayers are offered deduction on the premium they pay for their health insurance policies and health check-ups undertaken by them.

Under Section 80D of the Income Tax Act, 1961, the taxpayer can claim for the following amount as deductions.

A) ₹ 25,000, in aggregate, in respect of medical insurance premium or any payment made for preventive health check-up for self, spouse or dependent children.

B) If they pay medical insurance premium or make any payment towards preventive health-check-up of their dependent parents, then additional deduction of ₹ 25,000 can be availed. Thus, in all they can claim deduction of up to ₹ 50,000.

This is a good way of taking care of high medical expenses that might be incurred in the near future and also reduce one's tax liability.

3) Tax saving options under section 80 E of the Income Tax Act, 1961.

This saving option offers tax deductions on the interest paid for an educational loan.

The deductions can be claimed till 8 years starting from the date as of when the loan was taken till when repayment of it is done. Which concludes that the assessee is subjected to claim the entire amount paid as interest from the taxable income.

Strategies suggested to Mrs. & Mr. Malhotra to meet their long-term goals:

1) ELSS Funds (Equity Linked Saving Scheme)

ELSS are the mutual funds that invest in the equity market with the advantage that investors can get tax benefit u/s 80C of the Income Tax Act. Besides this, the income that they earn after the completion of three years tenure is taxable as Long-Term Capital Gain taxable @ 10% even if their overall income falls in the high tax slab.

2) Sukanya Samriddhi Yojana Account

Investing Sukanya Samriddhi Yojana Account which is a government of India backed saving scheme for girl child. This scheme inspires the parents to plan for a better educational future for the female child. On 22nd January 2015, this scheme was launched in collaboration with the Beti Bachao Beti Padhao Campaign. With 7% interest this scheme also fosters tax benefits.

The account opening process can be done at any India Post Office or Branch of the authorized commercial banks. For availing the benefits of this scheme, the maximum age for a girl child must be 10 years. A year's grace period is granted. The account is said to be mature on completion of a period of 21 years from the date when the account was opened. A minimum deposit of Rs. 250 is to be deposited initially and the maximum limit for the deposit is 1,50,000.

3) Term Insurance:

They have life insurance policy. However, in the event of death of anyone of them, the amount receivable by the family would suffice for at the most 1-2 years. So, it is advisable for them to surrender their existing life insurance policies and avail term insurance plans. This will help to reduce the annual premium vis-à-vis the premium on term insurance plans and also enhance the life cover.

4) National Pension Scheme:

Since both of them are working in the private sector, they can invest in NPS. They can choose whether the funds should be invested in Equity or Debt Market and the proportion can also be chosen. This will help in tax saving as well as help to create a retirement corpus.

5) Mutual Funds:

They can balance their portfolio by investing in different kinds of mutual funds – Diversified Equity Mutual Funds, Money Market Funds and Balanced Funds. They can decide amongst the numerous options available based on their risk appetite.

Conclusion:

Financial Planning is very important to provide financial security to self and family. With the dissolution of the joint family system and emergence of nuclear family system, individuals no longer have the backup of their family to bank upon in case of emergencies. This makes it even more important for them to plan their finances. Some of the common avenues that can be opted for by individuals is availing term insurance, investing in new pension scheme, utilizing the entire limit of Section 80C of the Income Tax Act, investing in Equity Market, or in case they do not have a high-risk appetite then mutual funds are the preferred choice. It can be said that the person who has planned his/her finances well, will always be tide over any situation that may arise in his/her life.

References:

- Mishra, R. K., & Singh, R. (2019). Factors affecting financial planning: A study of Indian households. *Journal of Financial Counseling and Planning*, 30(1), 48-60.
- Radhika, N., & Parthasarathy, P. (2017). Personal financial planning: A study of awareness and perception among Indian investors. *Indian Journal of Finance*, 11(5), 25-35.
- Jha, S., & Jain, R. (2015). Determinants of personal financial planning: Evidence from India. *Journal of Financial Planning and Counseling*, 1(1), 1-17.
- Pal, S., & Mitra, S. (2012). An empirical study of personal financial planning behavior in India. *International Journal of Business and Management*, 7(10), 1-13.

4. Application of Data Mining Techniques and Algorithms in Educational Sector: A Systematic Literature Review

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Journal Details

Journal Title (in English Language)	Madhya Bharti- Humanities and Social Sciences
Journal Title (in Regional Language)	मध्य भारती- मानविकी एवं सामाज्यविज्ञान
Publication Language	English , Hindi
Publisher	Dr. Harisingh Gour University
ISSN	0974-0066
E-ISSN	NA
Discipline	Multidisciplinary
Subject	Arts and Humanities (all) , Social Sciences (all)
Focus Subject	General Arts and Humanities , General Social Sciences
UGC-CARE coverage years	from September-2019 to Present

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**APPLICATION OF DATA MINING TECHNIQUES AND ALGORITHMS IN EDUCATIONAL SECTOR:
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Authored By

ABHIJEET KAIWADE

Sadhu Vaswani Institute of Management Studies for Girls, pune, India

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APPLICATION OF DATA MINING TECHNIQUES AND ALGORITHMS IN EDUCATIONAL SECTOR: A SYSTEMATIC LITERATURE REVIEW

Shital C.Kadam, Sadhu Vaswani Institute of Management Studies For Girls,pune, India
Abhijeet Kaiwade .Sadhu Vaswani Institute of Management Studies for Girls, pune, India

Abstract

Numerous fields of application have made significant use of data mining for prediction or classification. Data mining has seen widespread adoption in the fields of science, bioinformatics, and business because it greatly increases the productivity of its analysts by turning their vast, unmanageable, and prone to ignorable information into useful pieces of knowledge. The study of applying data mining, machine learning, and statistics to information produced in educational contexts is known as educational data mining (EDM). It makes use of a variety of methods to enhance educational outcomes and clarify educational processes for future decision-making. Clustering, Classification, Regression, Neural Networks, Artificial Intelligence, Association Rules, Genetic Algorithms, Decision Trees, and other techniques and algorithms are used to discover knowledge from databases. The study offered a systematic review of the literature on EDM that spans articles published between 2011 and 2023. Analysis is done by exploring objectives, algorithms used and Findings of research study on EDM. Examining these documents reveals that there is more room for research into EDM in course prediction.

Keywords:

EDM prediction, classification, machine learning, Neural Networks, Artificial Intelligence

I.INTRODUCTION

The burgeoning inter-disciplinary study field known as Educational Data Mining involves both computer science and education. (EDM). EDM makes use of data mining tools and techniques to draw out relevant and useful information from sizable educational datasets [1]. It can be viewed as an interdisciplinary study area that offers fundamental understanding of the teaching and learning process for quality education [2]. The goal of Educational Data Mining (EDM) is to analyze different educational data sets using methods and techniques from machine learning, statistics, Data Mining (DM), psycho-pedagogy, information retrieval, cognitive psychology, and recommender systems in order to address educational issues. There are numerous tools like Weka and Rapid Miner, among others, that use a combination of DM algorithms to assist

Researchers and stakeholders in finding solutions to particular issues. [3] .In [6] providing students with the information and skills they need to transition into successful careers within a set time frame is one of the main objectives of any educational system. Prediction of students' performance has long been a fascinating field of study in educational data mining, and it aids in identifying the weaker or more vulnerable students.[8]In knowledge discovery, data mining has been used to find patterns based on user requirements.[6]. If properly applied, educational data mining, a comparatively new field, has a lot of potential to benefit society [10].In [6] lists the following categories for the work in EDM: prediction, clustering, relationship mining, data distillation for human evaluation, and discovery with models. In [13] shows that the field of educational data mining is one that has a lot of potential. It focuses on creating methods for examining particular kinds of educational data and using those methods to learn more about students' strengths and flaws. The study looks at the goals of the research, the algorithms used to carry it out, and the research's findings in order to examine and analyze research on EDM. Standard systematic reviews of the EDM literature will be used to achieve this goal.

Following are the research objectives:

1) In this survey work focuses on objectives, algorithms used and Findings of research on EDM.

2) We have done a thorough, systematic review of the literature that spans between (2011–2023) areas of education where we can data mining techniques used for prediction and decision making. The remaining section of the paper is structured as follows: Section II discusses the literature, Section III explains the methodology and Section IV highlights the results and discussion followed by Section V conclusion and future enhancements

II. LITERATURE SURVEY

Given that this is a review article, it is crucial to describe the search criteria for the literature and the underlying methodology.

The research question for this study is to aggregate the use of data mining algorithms to educational data.

We have outlined some of the key EDM works.

Section A:

Student performance analysis

In [4] predicted student performance in distributed environment using classification algorithm in data mining. The aim of the study was to create global rules by merging many local rules created by many classification algorithms. java using .net beans 7.0 has used in the study. Weka tool is used for the study. Data set collected from parul institutes students contains 1000 records. Random decision tree is applied on the dataset. Rules generated from each notes were combined to create global model with the help of specific classification method. Result shows that global rules can be beneficial for their individual results and also for academic institution profile. developed a decision tree model to predict student performance in engineering dynamics – a high-enrollment, high-impact, and core engineering course. Result of the study revealed that key significant factors are student's score in Statics and cumulative GPA which has impact for student performance in engineering dynamics. It turns out that decision tree predictions are more precise than those made using the more conventional multivariate linear regression method. The study include five predictor/independent variables including the student's cumulative GPA and scores in four prerequisite courses: Engineering Statics, Calculus I, Calculus II, and Physics And one outcome/dependent variable (i.e., a student's score in dynamics) the data set consists of 750 data records from 125 students in Semesters A (45 students) and B (80 Students) having majors were: mechanical engineering (61), civil engineering (40), and bioengineering and other majors (24). Rules have been established and the relationship between the courses that the students failed has been revealed using an apriori algorithm on the data of students from Istanbul Eyup I.M.K.B. Vocational Commerce High School. For studying algorithms on data, a software programme for schools has been developed. This general-purpose programme was designed to extract association rules from databases. All of the student and school data has been uploaded to a database. Using these data association rules has obtained [5]. In [6] the data and methodology employed in those investigations is included in this paper's assessment of pertinent studies in the EDM field. The development of techniques for the extraction of intriguing, comprehensible, practical, and original knowledge is aided by the data mining of educational data (EDM), which could result in a better understanding of students and the environments in which they learn. Study observed that EDM can be used in a wide range of situations, such as detecting at-risk students, prioritizing the learning requirements of various student groups, raising graduation rates, accurately evaluating institutional performance, allocating campus resources, and improving topic curriculum renewal. [7] Compared various performance of feature selection techniques used for predicting students performance to identify best feature selection and classification algorithm. For the study algorithms used are J48, Naïve Bayes, Bayes Net, IBk, OneR, and JRip. The algorithms CfsSubset evaluations, Chi-Squared Attribute Evaluation, Information Gain Attribute Evaluation and Relief attribute evaluation used in this study. Two testing options such as cross validation and percentage split were applied on the classifiers. ROC values and F-Measure were generated. In this study Classifiers was implemented Without Feature Selection algorithm (WFS) and with Feature Selection algorithm (WFS). And finally

comparison has made so from study found that CFS Subset Evaluator performed better than other three feature selection algorithms. WEKA software used in the study. Data collected from Tamil Nadu state of India. Student's performance's report of final examination of Bachelor degree program in 2014 was considered for the study. Total 610 students with 21 attributes data collected by using questionnaire. Attributes like demographic characteristics, student's admission data and pre-collegiate features of the students and examination performance were considered. From the study it is concluded that IBK shows high accuracy of 99.680%. than other classifiers and Subset Evaluator performed better than other three feature selection algorithms. So this study will help to identify the slow learners so that faculty will focus on them for their improvement. [8] Used Improved Naive Bayesian mining technique for proposed system. Proposed system will predict the academic performance of the students based on their academic history and predict upcoming semester performance. For the study 300 engineering students' of Gulzar Group of Institutes has collected. Total 21 attributes were considered for the study. FP Rate, Precision, Recall, TP Rate, F-measure, Kappa Statistics and Accuracy parameters were considered to make comparison between Naïve Bayes and Improved Naïve Bayes. Study concluded that Improved Naïve Bayes is shows accuracy of 86.66 % which is better than only Naïve Bayes. Build the classification model by using Support Vector Machines, Decision Tree and Gradient Boosting algorithms to predict the student's performance at last semester external exams. For the study data collage in JNTUA region in Andhra Pradesh were collected. In the study accuracy of selected classifiers were calculated and found that every classifiers showed the accuracy above 75%. Accuracy varies upon the attributes. Results show that prediction of distinction class was not good as compared to first class. Decision Tree algorithm, Support Vector Machine and Boosting are the algorithms applied on the dataset. Data was collected from the college are of students data collected during admission process. Students Sex, Students Branch, Students category, Students grade in High School, Intermediate %, Day scholar-Living Location of Student, Hostler- Student stay in hostel or not, Last Semester Mark, Internal Exams Grade, Seminar Performance, Assignment Exam, Present Attendance, External Exams are attributes included in the study. Researcher conclude that Boosting algorithm perform well than other classifiers [9]. In [10] objective of the study was to comparative study of marks predictions using data mining techniques. For the study researchers has used data set of four hundred and eighty students with 16 parameters such as gender, nationality, place of birth, marks etc. Students performance was classified in three category such as low-level ,mid-level and high-level.for the study researcher has selected attributes like gender, nationality, place of birth, educational stages ,grade levels, section ID, Topic covers, semester, parent raise hand, visited resources, Viewing announcements, Discussion groups , Parent Answering Survey , Parent School Satisfaction, Student Absence Days. All theses parameters are used to predict the performances category of the students. The algorithms used were J-48, Random forest, naive bayes, naïve bayes multinomial, K-star, IBK. Researcher found that J48 (Decision Tree) giving 75.8333 % accuracy , Random Forest - 76.6667 % , Naive Bayes - 67.7083 % , Naive Bayes Multinomial - 43.9583 % , K-star - 73.75 % , IBk - 72.91%.From the result is concluded that random forest algorithms performs best that the others. Designed the model which predicts the student's performance in end semester examination by using decision tree method and probabilistic classification method. This can predict the early dropout. Also compared two classification algorithms ID3 and Naïve Based algorithm. Data such as Attendance, Class test, Seminar and Assignment marks were collected from the student's management system [11].

Student placement

In [12] studied the employability factors that can be enhancing employability skills which deal with the adequate teaching methodologies. Study mainly focuses the employability of engineering graduates. Questionnaire was used to collect data from 300 records of Graduates studied from various engineering colleges. Analysis was done by SPSS tool using Chi square Test. Study shows that Engineering Branch and the working specialization shows significant Association, Engineering Branch And Students placed in campus interview, Graduates Working on the Specialization and job

satisfaction, Placement opportunities in campus interview and CGPA of a student, Salary received per annum and satisfaction with job profile affects are important employability factors which can improve the chances of employability. Predicted student placement in software companies using educational data mining. For the study classification algorithms has used. Data collected from students undergoing higher education of Delhi state university's affiliates. For the prediction students' personal, pre-university and operational characteristics were considered. Total data from 1000 students were collected. Algorithms like Naïve Bayes and Bayes Net, Kstar, IBk, Decision table, OneR, JRip, J48, LMT, Random Forest, Random Tree were implemented on the data set using with 10 fold cross validation and Percentage split. Study showed that J48 Decision Tree Algorithm is the best compared to the other algorithms with accuracy 76.41%. From the study it is observed that students using both Internet based (Facebook, Twitter) and Mobile based (Whatsapp, wechat, line) networking methods get placed as compared to students who are using only one method. Study shows that whether student will employed or unemployed and can be guided to improve upon the features that contribute towards his placement [13].

Career selection

In [14] the aim of the study was to predict the graduation of students on time using artificial neural networks. For the study data collected were from 2009 to 2013 of 193 students academic and student affairs administration (BAAK) in STMIK Widya Cipta Dharma Samarinda. matlab tools with artificial neural network were applied on the dataset. Grade point, Cumulative semester of credits, economic status, job status, goal attributes considered for the study. From the study it is examined that the neural network with one input layer (5 neurons), one hidden layer (5neurons), one output layer (one neuron), learning rate = 0.001, activation function trained, learning function trained can be used to predict with precision.

Proposed prediction and recommendation systems using use of mining and statistical Algorithms. Study focused on accuracy approach for prediction. In the study Pattern mode, K-Cross Validation [10], Training and validation methods were used for the study. Proposed prediction and recommendation systems was build using C4.5 algorithm. Java and SQLServer 2008, Statistical tool and Weka tool were used for the study. Data set contain 200 students having 12 attributes. The proposed model shows 86% accuracy. Strengths, Reliability, decision Making, Attitude, Discipline, learning Ability, social Ability, Adaptability, Leadership, Team Work, Verbal Communication, and Persuading attributes considered for the study. Data mining algorithms such as C4.5, Naïve Bayes, K Star, simple cart were considered and their accuracy were compared. From the study it is revealed that C4.5 performs better than others. The proposed system predicts the career choice using student's psychological condition [15]. In [16] proposed a model from students' enrollment data to discover highly positive association rules. We assess the suggested approach using computer science students who entered the programme in 2008/2009. The information was received in text file and Microsoft Excel format from the Division of Academic at University Malaysia Terengganu. There were 160 participants. Successful extraction of 4,177 association rules in total. Only three of these association regulations are reasonable and acceptable. The study concluded that proposed model can discover the association rules with highly correlated. In [17] developed knowledge based decision technique by applying new attribute selection measurement function (heuristic) to the existing C4.5 DT algorithm for selecting proper branch of engineering. Study also analyzed the accuracy between decision tree algorithm (C5.0) and back propagation algorithm (ANN). for the study AIEEE2007 Database were considered on which a modified DM technique was applied. Result showed that accuracy rate using C5.0 and ANN algorithms for different partition sizes is 12 % higher. Designed the model to select an institution and program or course. For course prediction attributes such as field of interest, personality, trait, and mental ability of students were considered for the study. 6, 50,000+ datasets were collected study. For the study the proposed analytics focused on analysis of counseling guidance by using big data by using hadoop-hive software. The aim of the study to analyze historical datasets of various

colleges affiliated to university and accordingly performed comparison of their performance. For the comparison factors considered are placements, student- staff ratio, affiliations, students' performance and student rating. Proposed system has various modules like Student Population , Seat Filling by Category ,Staff student ratio ,Performance ,Branches are Choosing Mostly , Colleges are Choosing Mostly ,Placements ,Staff Info ,NBA accredited colleges , NAAC accredited colleges , Autonomous .this study designed web based application using big data analytics which reduce efforts' required for college selection[18].In [19] presented decision support system/expert system for Guiding Fresh Students in Selecting a Faculty in Gomal University which is based on student capabilities like intelligence, understanding, comprehension, mathematical concepts plus his/her past academic record .in the study authors converted the knowledge into facts and rules in CLIPS syntax, and store them in the knowledge base of the CLIPS language. The developed expert system is rule based which identify y the most suitable faculty or major for the student based on his abilities and capabilities extracted from the test module results. compared various data mining algorithms to predict the the career decision for students who have passed 12thstd.For the study Random Forest learning technique has used.200 samples data collected of class 10th and 12th standard students of career counseling. Various data mining algorithms such as ID3, K-Means, Naïve Bayes and Random Forest were applied on the data set. Student Id, Gender, Student category, Medium of teaching,stream,10th Grade,12th Grade, Type of coaching, Scholarship, Admission Type, Type of Coaching Material ,efficiency, Father's occupation, Mother's occupation, Parent's income status are the attributes considered for the study. The study concluded that as data size increases Random forest gives better result or accuracy [20].In [21] focused on application of data mining techniques for student enrollment in higher education and to find out which factor create the loyal students. Also identify areas in which data mining be applied. Researches explained how associations, classification and clustering will be used in educational data mining in the area like to predict faculty retention, resources optimization, also in recruitment. Focused on to find out the effect of parameters such as "parent's profession," "mass media" and "personal choice" on students" career selection. The first semester students from three of Lahore's top business schools participated in an online poll to provide the data, which was then collected using a process called systematic random sampling. This research supports the idea that "parenting profession" has impact on a student's career decision. Similar to this, "personal choice" has a significant and immediate influence on students' job decisions. This study also asserts that media is a crucial factor in career choice. Additionally, the three factors—parents' occupations, the media, and students' own preferences—all interact to impact students' career decisions. According to the study, "personal choice" and "mass media" have a greater influence on students' career decisions than parents' occupations do. Data analysis was done using AMOS 18 and SPSS 17 software. This study supports the idea that parents' occupations have a significant and direct impact on their children's career choices. Similar to this; "personal choice" is strongly related to the career choices made by student. Additionally, "mass media" has a direct and indirect impact on the career choices of student. Additionally, each of the three variables—parents' occupations, the media, and pupils' own preferences—influences the other two [22].In [23] proposed system for career option predications based on their personality trait, interest and their capacity to take up the course. Study performed the comparison of performance between the data set using C5.0 with adaptive boosting and C5.0 on dataset with personality, interest and capacity. Adaptive boosting algorithm is implemented which showed 94% accuracy which is better than5.0 without adaptive boosting algorithm .In [24] developed the Student Career Prediction System using The K-Nearest Neighbor and Certainty Factor algorithms. Exam results, student interests, and aptitude were utilized to establish each student's career-appropriate decision. Dataset consists of 102 students in which training data of 78 students and testing data of 24 students. Questionnaire was used to collect the data. The findings indicate that the K Nearest Neighbor approach was successful in predicting careers because of a value derived from the Certainty Factor. When these two techniques were combined, the accuracy value for K-Nearest Neighbour Value $k = 3$ was 70%, and the combined Certainty factor was 0.99%.The K-Nearest Neighbor and Certainty Factor

technique combined yielded a value of 93.83%. Therefore, it can be said that the K nearest Neighbor approach and the certainty factor method have good accuracy. It was anticipated that the two-way analysis would give students greater information to help them choose a career.

Developed the Decision Support System Education Career Choice Using Fuzzy Model. The created expert system provides insight into the body of knowledge that the upcoming specialty can be attributed to. An expert system was implemented in the initial step, allowing you to select one of five preferred models for the study's direction from a list of options based on the Klimov approach. Then, at the second level, a fuzzy direction of training was implemented with the aid of a fuzzy apparatus, specifically the Mamdani algorithm, in which the terms of the output variable were the names of specializations. Five fuzzy choice models that are based on the input linguistic variables are used to examine the impact of the input parameters on the output variable of the training direction choice. For each model, a knowledge base has been created that consists of production rules that are expressed as fuzzy linguistic assertions. The efficiency of the developed models has been confirmed by experimental research. Making an informed decision will be improved by the capability of testing using the system and receiving results in the in form of the specialized name. The data were compared with the output of the generated system after the fuzzy system was modeled using FUZZY TECH. The result was a system that was divided up into many modules. The user is required to complete a test to determine his preferences in the first section. The system gathers and evaluates the results when the test is passed. The mechanism of imprecise choosing of the direction of inquiry is triggered the second section based on the findings. This strategy will greatly boost the accuracy of specialty selection and enhance the indicators for graduates to enter the field they have chosen [25].

Educational Data Mining Application

In [26] reviewed on educational data mining, its advantages and barriers. Examined work done in education data mining area, its applications and algorithms [27]. In [28] identified role of data mining in educational field. Reviewed different data mining algorithms such as classification, clustering, association and genetic algorithms used in educational sectors [29]. Analyzed the different data mining techniques and algorithms for patten finding used in education institutes. Also examined the goal of educational data mining in higher education [30]. In [31] improved decision tree model by using ID3 to predict whether student will continue or drop the Course.

Section B: Potential Research Gaps Identified

Following is the summarized list of potential research gaps identified through extensive literature from section A

- 1) It is observed [4],[5],[6],[7],[8],[9],[10],[11],[12],[13] that most of the research in educational data mining is focused on student performance prediction, students placement and few on career selections.
- 2) The research work conducted previously [16] , [18] , [23] , [47] , [51] , [53] does not considered all factors at a time from demographic, personal, academic and social area while course selection.
- 3) The systems [18],[25],[33],[38],[52],[45] fall short of providing a general solution aimed at a larger population because they are tailored systems limited to a particular geographic region, where students from particular cultural backgrounds and educational backgrounds have been taken into account..
- 4) Some Models [24], [32], [34], [38], [40],[44],[45],[46],[47],[49], [52], suggest only specific course or Jobs using time consuming aptitude test.
- 5) The authors found that the Identifying and implementing influencing features from demographic, personal, academic and social area can plays a significant role in the prediction of course stream using various Machine learning algorithms with best accuracy.

III. METHODOLOGY

The following are the main stages in conducting a literature search:

A. Constructing Search Terms

The information below will aid in clarifying the search terms we used to answer our research query. Educational data mining, Educational data mining algorithms, use of data mining algorithms in EDM, students performance prediction, students retentions prediction , carrier guidance, career recommendation system, course recommendation system, predictive model in Emplacement prediction using data mining , ML used in EDM. learners' behavior, Use of Machine learning algorithms in EDM predict drop out ration using ML, Course selection Model using ML. career guidance model.

B. Search Strategy

By determining the educational attribute and algorithm for the career or course section, we created the search terms. We also looked for different keywords and alternatives. In our search phrases, we used boolean operators like AND, or, and not. The pertinent papers were found by searching and sorting through various databases. Table I lists the datasets.

C. Publication Selection

a. Inclusion Criteria

The following factors are used to determine what constitutes appropriate literature, including journal and magazine articles, conference papers, technical reports, books and e-books, early access articles, standards:

- Studies that examined educational characteristics in relation to a application of data mining techniques and tool.

b. Exclusion Criteria

The following parameters were used to weed out any literature that wasn't pertinent for this study.

- Studies those are not pertinent to the research question.
- Studies without descriptions or analyses of data mining algorithms in educational area.

c. Selecting Primary Sources

or this review process, we have chosen 62 papers.

d. Range of Research Papers

The published research from the years 2011 to 2023 is covered by the review of the literature conducted for this study

IV. RESULTS AND DISCUSSION

This paper reports on systematic literature review on application data mining in educational sector and implication of various machine learning algorithms to develop predictive models for taking various decisions. Study analyzed the articles published between 2011 to 2023. Figure 1 shows the articles count from 2011 to 2015 and 2016 to 2023.

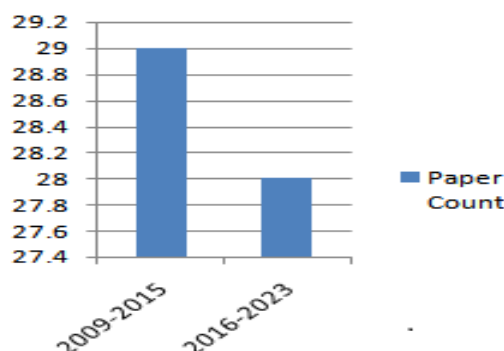


Figure 1: distribution of articles Year Wise

The study aim to explore the objectives of articles, algorithms used and key finding in the articles. The finding of the study shows that most of the researcher showed in the interest in the area such as finding students performance in academic, placement, learning behavior and career recommendation. We studied various articles on career recommendation but not proper study focused on considering various such as demographic, personal, social, academic and economical factors of students for single course

selection from different fields such as Medical, Engineering, Education, Commerce and management, Science, Arts, Fashion Technology and architecture etc.

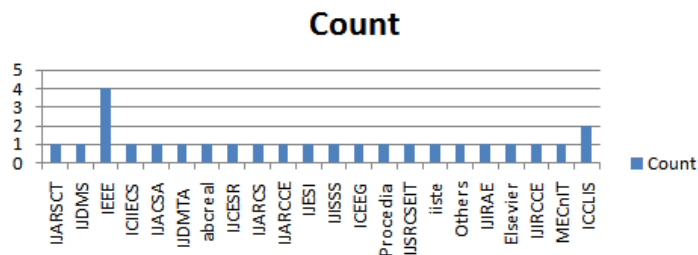


Figure 2: Distribution of articles journal wise

Figure 2 shows the distribution of articles journal wise. various articles are available which shows that most of the researchers now interesting EDM.

Figure 3 shows frequency of Machine Learning algorithms used in various articles which focus on course or career recommendation. Algorithms such as Fuzzy logic, Random forest tree and K-nearest neighbor are mostly considered for the study.

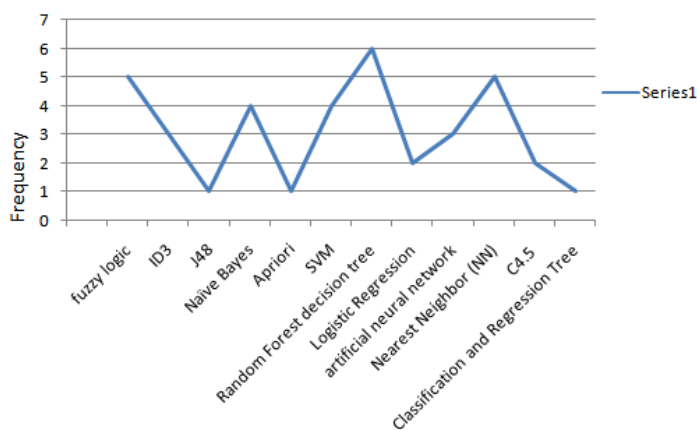


Figure 3: frequency of Machine Learning algorithm

Reference	Problem/ Objective	Algorithm/Method	Key Findings
[14]	Prediction Student Graduation on Time Using Artificial Neural Network on Data Mining Students STMIK Widya Cipta Dharma Samarinda	Artificial Neural Network	To predict the graduation of students on time using artificial neural networks.
[16]	Novel Professional Career prediction and recommendation method for individual through analytics on personal Traits using C4.5 Algorithm	C4.5 Algorithm	proposed prediction and recommendation systems using students psychological condition
[18]	Counselling Guidance Using Big Data Analytics	Big data by using hadoop-hive software	designed the model to select an institution and program or course

[19]	A Proposed Decision Support System/Expert System for Guiding Fresh Students in Selecting a Faculty in Gomal University	Rule based	presented decision support system/expert system for Guiding Fresh Students in Selecting a Faculty in Gomal University
[20]	A Higher Education Predictive Model Using Data Mining Techniques	ID3, K-Means, Naïve Bayes and Random Forest	To predict the career decision for the 12 th passing out students
[23]	Career Counselling Using Data Mining	C5.0 with adaptive boosting and C5.0	proposed system for career option predications
[24]	Analysis Optimization K-Nearest Neighbor Algorithm with Certainty Factor in Determining Student Career	K-Nearest Neighbor and Certainty Factor algorithms	Designed Student Career Prediction System
[25]	A Fuzzy Inference based Decision Support System for Solving the University-Course Admission Choice Problem	Fuzzy Logic	create a decision support system that would help university applicants who were faced with the admissions choice problem
[32]	Predicting Career Using Data Mining	ID3, Classification and Regression Tree, Random Forest, Support Vector Machines, Neural Networks CART and Multi-Layer Perceptron (MLP)	prediction of student's estimated career
[33]	DESIGN OF AN ONLINE EXPERT SYSTEM FOR CAREER GUIDANCE	Rule based knowledge-base	web based Expert System Career Guidance
[34]	Development of a Comprehensive and Integrated Expert System for Career Assessment based on Cognitive models	Cognitive models	designed An expert system which investigate and find an appropriate job related to software career(s) in the software industry for the students
[35]	THE SIGNIFICANCE OF AWARENESS ABOUT SELECTION AND RECRUITMENT PROCESSES IN STUDENTS' CAREER DECISION MAKING	statistical analysis	study aims to determine the value of selection process awareness in students' career decisions

[36]	Scrutinizing Artificial Intelligence based Career Guidance and Counselling Systems: an Appraisal	Artificial Intelligence (AI)-	Scrutinized AI based career guidance systems.
[37]	Career Selection: Role of Parent's Profession, Mass Media and Personal Choice	statistical analysis	find out the effect of parameters such as "parent's profession," "mass media" and "personal choice" on students' career selection personal choice" and "mass media" have a greater influence on students' career decisions than parents' occupations do
[38]	Developing an Intelligent Recommendation System for Course Selection by Students for Graduate Courses	Clustering Technology, Feed-forward back propagation probabilistic neural network and Classification using Fuzzy Logic and Rough Set.	Developed recommendation system for students to select course engineering Stream
[39]	Career Prediction Model Using Data Mining And Linear Classification	Binary classification , Logistic Regression, K-Nearest Neighbors and Stochastic Gradient Descent, random forest	developed a Intuitive Career System to predict the career
[40]	Machine Learning Approach for Student Career assessment in the modern world	Artificial Neural Network	proposed an expert system using a machine learning approach for assessing student's career

Reference	Problem/ Objective	Algorithm/Method	Key Findings
[41]	Expert system for Career Selection: A Classifier Model	ID3 , J48 , IB1 fuzzy logic	designed a framework of expert system for career selection
[42]	Prediction of Student Enrolment Using Data Mining Techniques	Apriori and Naïve Bayes algorithm	predicts Student's Branch Prediction and second is Stream Analysis of engineering course
[43]	Design and implementation of framework for higher	statistical analysis and data visualization	framework for higher education enrollment

	education enrolment through ICT enabled application using JEE		
[44]	A Framework For Analytical Services Using Data Mining Techniques to Predict the Enrollment of Student At A University – A Case Study	Naive Bayes" algorithm	Model to predict whether the student will enroll to university or not.
[45]	Smart Career Guidance and Recommendation System	SVM, Random Forest decision tree, One Hot encoding, XG boost Logistic Regression and Linear Discriminate Analysis	Recommendation System in Choosing a right field in CSE/IT stream
[46]	An Intelligent Career Counselling Bot A System for counseling	artificial intelligence algorithms	Intelligent Career Counseling Bot
[47]	Career Guidance through Multilevel Expert System Using Data Mining Technique	framework for Multilevel Expert System to advice Career path Nearest Neighbor (NN)	framework for Multilevel Expert System to advice Career path Nearest Neighbor (NN)
[48]	Attitude Towards Career Guidance and Counselling Among Higher Secondary School Teachers Under Present Scenario in West Bengal	statistical analysis	Studying the higher secondary school teachers' attitude towards Career Guidance and Counseling. Study concluded that there is no significant difference between attitude with respect to their gender, location of school and subject streams.
[49]	EM&AA: An Algorithm for Predicting the Course Selection by Student in e-Learning Using Data Mining Techniques	Clustering and Apriori Association Rule Algorithm	a framework for Course Recommendation System
[50]	Prediction of Student Enrolment Using Data Mining Techniques	REP Tree algorithm ,neural network	designed a model for branch selection while taking the admission in the engineering

[51]	An incremental ensemble of classifiers as a technique for prediction of student's career choice	Proposed algorithm used to predict the career choice of a student accurately	Naïve Bayes, K-Star and SVM using the majority voting methodology worked together in incremental ensemble
[52]	recommendation System for UiTM Perlis Students Using Fuzzy Logic	a fuzzy logic	a fuzzy logic-based career recommendation system
[53]	Online Career Counsellor System based on Artificial Intelligence: An approach	SVM ,Decision tree	Online Career Counselor System based on Artificial Intelligence

Table 1

V. CONCLUSION AND FUTURE ENHANCEMENTS

In this study, systematic literature review conducted application of education data mining and mainly focused on implementation of machine learning algorithms to course recommendation system.

Total 53 articles between 2011 to 2023 were considered for the review. The finding of the study shows that most of the researcher showed in the interest in the area such as finding students performance in academic, placement, learning behavior and career recommendation. We studied various articles on career recommendation but not proper study focused on considering various such as demographic, personal, social, academic and economical factors of students for single course selection from different fields such as Medical, Engineering, Education, Commerce and management, Science, Arts, Fashion Technology and architecture etc. The development of numerous policies in career guidance and counselling depends on this understanding, which is fundamental and important. All of the proposed methods were discovered to have flaws and were therefore lacking in one or more contexts.

In the future, the author wants to identify influencing factors for career selections and developed predictive model for career selection using same.

REFERENCES

- [1]. Mr. Pradeep Nayak¹ , Mohammed Sufiyan² , Mohan Raju. V³ , Monisha. N. S. ⁴ , Moollya Gautami Bhaskar ,” Review Paper on Educational Data Mining”, nternational Journal of Advanced Research in Science, Communication and Technology (IJARSCT) Volume 3, Issue 2, January 2023
- [2] Rajni Jindal and Malaya Dutta Borah ,” A SURVEY ON EDUCATIONAL DATA MINING AND RESEARCH TRENDS “,International Journal of Database Management Systems (IJDMS) Vol.5, No.3, June 2013
- [3] Ashish Dutt, Maizatul Akmar Ismail, and Tutut Herawan,” A Systematic Review on Educational Data Mining” 2169-3536 (c) 2016 IEEE,DOI 10.1109/ACCESS.2017.2654247, IEEE Access
- [4] Krina Parmar, Prof. Dineshkumar Vaghela, Dr Priyanka Sharma(2015),”PERFORMANCE PREDICTION OF STUDENTS USINGDISTRIBUTED DATA MINING”, IEEE Sponsored 2nd International Conference on Innovations in Information Embedded and Communication Systems ,ICIIECS'15
- [5].
- [6]. Abdulmohsen Algarni (2016) "Data Mining in Education", (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 7, No. 6, 2016456 | P a g e www.ijacsa.thesai.org
- [7]. T.Velmurugan, C. Anuradha (2016) “Performance Evaluation of Feature Selection Algorithms in Educational Data Mining”, International Journal of Data Mining Techniques and Applications Volume: 05 Issue: 02 December 2016 Page No.131-139 ISSN: 2278-2419

- [8]. Khoo, K., Ban, T.K., Neng, C.Y., Hooi, B.K. & Joan, C.Y. (2015). Students Choices of choosing Colleges and Course of Study in Penang. ABC Research Alert, 3(1), 1-7. Retrieved from <http://www.abcreal.weebly.com>
- [9]. Kolluru Venkata Nagendra, K.Sreenivas, P.Radhika()STUDENT PERFORMANCE PREDICTION USING DIFFERENT CLASSIFICATION ALGORITHMS”, INTERNATIONAL JOURNAL OF CURRENT ENGINEERING AND SCIENTIFIC RESEARCH (IJCESR), ISSN (PRINT): 2393-8374, (ONLINE): 2394-0697, VOLUME-5, ISSUE-4, 2018
- [10] Bhrigu Kapur, Nakin Ahluwalia,” Comparative Study on Marks Prediction using Data Mining and Classification Algorithms” International Journal of Advanced Research in Computer Science, Volume 8, No. 3, March – April 2017, ISSN No. 0976-56
- [11]. Ditika Bhanushali, Seher Khan, Mohommad Madhia, Shoumik Majumdar(2018),”Student Performance Prediction And Analysis”, International Journal of Advanced Research in Computer and Communication Engineering,ISO 3297:2007 Certified Vol. 7, Issue 3, March 2018
- [12] Selvi.R, Anitha.P, Padmini.P (2016)” A Study on Employability of Engineering Graduates Using Data Mining Techniques”, International Journal of Engineering Science Invention (IJESI) ISSN (Online): 2319 – 6734, ISSN (Print): 2319 – 6726 www.ijesi.org || PP. 12-16
- [13]. Kavita Pabreja (2017),”Comparison of Different Classification Techniques for Educational Data”, International Journal of Information Systems in the Service Sector,Volume 9 • Issue 1 • January-March 2017
- [14] Asep Nurhuda, Dewi Rosita(2017),”Prediction Student Graduation on Time Using Artificial Neural Network on Data Mining Students STMIK Widya Cipta Dharma Samarinda” , *ICEEG '17*, June 14-16, 2017, Turku, Finland. Copyright 2017 ACM 978-1-4503-5248-2/17/06...\$15.00.,DOI: <http://dx.doi.org/10.1145/3108421.3108431>
- [15] Lokesh S. Katore, Bhakti S. Ratnaparkhi, Dr. Jayant S. Umale(2015),”Novel Professional Career prediction and recommendation method for individual through analytics on personal Traits using C4.5 Algorithm”,proceedings of 2015 global conference on communication technologies(GCCT 2015),978-1-4799-8553-1/15/\$ 31.00@ 2015 IEEE
- [16] Zailani Abdullaha*, Tutut Herawanb, Noraziah Ahmadb, Mustafa Mat Derisc “Mining significant association rules from educational data using critical relative support approach”, *Procedia - Social and Behavioral Sciences* 28 (2011) 97 – 101
- [17] Malaya Dutta Borah, Rajni Jindal , Daya Gupta Ganesh Chandra Deka (2011) “Application of knowledge based decision technique to Predict student enrollment decision”, 2011 International Conference on Recent Trends in Information Systems, 978-1-4577-0792-6/11/\$26.00 ©2011 IEEE
- [18] Jinka Thirunarayana (2018)“ Counselling Guidance Using Big Data Analytics”, International Journal of Scientific Research in Computer Science, Engineering and Information Technology © 2018 IJSRCSEIT | Volume 3 | Issue 3 | ISSN : 2456-330.
- [19]. Muhammad Zaheer Aslam*, Nasimullah, Abdur Rashid Khan
A Proposed Decision Support System/Expert System for Guiding Fresh Students in Selecting a Faculty in Gomal University, Pakistan ,Industrial Engineering Letters www.iiste.org ISSN 2224-6096 (Print) ISSN 2225-0581(Online) Vol 1, No.4, 2011
- [20]. Subhalaxmi Panda , P. A Pattanaik , Tripti Swarnkar (2017)” A Higher Education Predictive Model Using Data Mining Techniques”, individual papers by the papers’ authors
- [21]. P.Veeramuthu, R.Periasamy ,” Application of Higher Education System for Predicting Student Using Data mining Techniques”, International Journal of Innovative Research in Advanced Engineering (IJIRAE) ISSN: 2349-2163,Volume 1 Issue 5 (June 2014)
- [22] Esra Mahsereci Karabulut* , Selma Ayşe Özelb , Turgay İbrikçib,c,” A comparative study on the effect of feature selection on classification accuracy” 2212-0173 © 2012 Published by Elsevier Ltd. doi: 10.1016/j.protcy.2012.02.068
- [23] Nikita Gorad, Ishani Zalte, Aishwarya Nandi, Deepali Nayak(2017)”Career Counselling Using Data Mining”, International Journal of Innovative Research in Computer and Communication

Engineering (*An ISO 3297: 2007 Certified Organization*) Vol. 5, Issue 4, April 2017, ISSN(Online): 2320-9801 ISSN (Print): 2320-9798

[24] Nunsina, Tulus, Zakarias Situmorang (2020) “Analysis Optimization K-Nearest Neighbor Algorithm with Certainty Factor in Determining Student Career” 2020 3rd International Conference on Mechanical, Electronics, Computer, and Industrial Technology (MECnIT)

[25]. Olha Pronina and Olena Piatyokop(2021),” The Decision Support System Education Career Choice Using Fuzzy Model”, COLINS-2021: 5th International Conference on Computational Linguistics and Intelligent Systems, April 22–23, 2021, Kharkiv, Ukraine EMAIL: pronina.lelka@gmail.com (O. Pronina); piatyokop_o_ye@pstu.edu (O. Piatyokop) ORCID: 0000-0001-7085-8027 (O. Pronina); 0000-0002-7731-3051 (O. Piatyokop) © 2021 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0). CEUR Workshop Proceedings (CEUR-WS.org)

[26] B.Namratha, Niteesha Sharma(2016) “Educational Data Mining –Applications and Techniques” International Journal of Latest Trends in Engineering and Technology (IJLTET) ISSN: 2278-621X, Vol 7 issue 2 July 2016, <http://dx.doi.org/10.21172/1.72.575>

[27] Dipesh Walte 1 , Hari Reddy 2 , Vivek Ugale 3 , Amol Unwane 4 (2014)Overview of algorithms in Educational DataMining for Higher Education: An Application Perspective, International Journal of Engineering Research & Technology (IJERT),Vol. 3 Issue 2, February – 2014 IJERTIJERT ,ISSN: 2278-01

[28] P. Meena Kumari, SK.Abdul Nabi and Puppal Priyanka(2014),”Educational Data Mining and its role in Educational Field” ,(IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 5 (2) , 2014, 2458-2461,ISSN-NO0975-9646

[29] Saddam Khan, Sunny Gupta, Yogesh Kumar Sharma, Dr. Radhakrishna Rambola (2015) “A Study on Data Mining Techniques and Genetic Algorithm in Education Sector”, IJCSMC, Vol. 4, Issue. 3, March 2015, pg.681 – 683, ISSN 2320–088X

[30]. Nupur Bhagoriya, Priyanka Pande (2017)“EDUCATIONAL DATA MINING IN THE FIELD OF HIGHER EDUCATION-A SURVEY”,IC™ Value: 3.00, ISSN: 2277-9655, April, 2017] Impact Factor: 4.116,IC™ Value: 3.00 CODEN: IJESS7

[31]. Subitha Sivakumar, Sivakumar Venkataraman and Rajalakshmi Selvaraj (2016)“Predictive Modeling of Student Dropout Indicators in Educational Data Mining using Improved Decision Tree”, Indian Journal of Science and Technology, Vol 9(4), DOI: 10.17485/ijst/2016/v9i4/87032, January 2016 ,ISSN (Print) : 0974-6846 , ISSN (Online) : 0974-5645

[32]. Md. Yeasin Arafath, Mohd. Saifuzzaman(2018),”Predicting Career Using Data Mining”, 2018 International Conference on Computing, Power and Communication Technologies (GUCON) Galgotias University, Greater Noida, UP, India. Sep 28-29, 2018

[33]. S. Saraswathi1 , M. Hemanth Kumar Reddy2 , S. Udaya Kumar3 , M. Suraj4 , Sk. Khaja Shafi5,” DESIGN OF AN ONLINE EXPERT SYSTEM FOR CAREER GUIDANCE”, Volume: 03 Special Issue: 07 | May-2014, Available @ <http://www.ijret.org>, IJRET: International Journal of Research in Engineering and Technology eISSN: 2319-1163 | pISSN: 2321-730

[34]. V. Chandra Prakash1 , J.K.RSastry2*G.Reeshmika3 , M.Pavani4 , P.Chikitha Sree5 , J.S Ravi Teja6, Development of a Comprehensive and Integrated Expert System for Career Assessment based on Cognitive models International Journal of Emerging Trends in Engineering Research, 7(11), November 2019, 617- 627

[35]. THE SIGNIFICANCE OF AWARENESS ABOUT SELECTION AND RECRUITMENT PROCESSES IN STUDENTS’ CAREER DECISION MAKING, Rashid Ali Shar Baloch Dr. Naimatullah Shah Department of Public Administration, University of Sindh, Jamshoro, Sindh, Pakistan, European Scientific Journal May 2014 edition vol.10, No.14 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431

- [36]._Scrutinising Artificial Intelligence based Career Guidance and Counselling Systems: an Appraisal, Tehseen Mehraj, 2Asifa Mehraj Baba, International Journal of Interdisciplinary Research and Innovations ISSN 2348-1226 (online) Vol. 7, Issue 1, pp: (402-411), Month: January - March 2019, Available at: www.researchpublish.com
- [37]. Career Selection: Role of Parent’s Profession, Mass Media and Personal Choice, Noshina Saleem*, Mian Ahmad Hanan Irfan Saleem and Rao Majid Shamshad Bulletin of Education and Research December 2014, Vol. 36, No. 2 pp. 25-37
- [38]. Grewal DS and Kaur K(2016) “Developing an Intelligent Recommendation System for Course Selection by Students for Graduate Courses”, Business and Economics Journal, Bus Eco J 2016, 7:2DOI: 10.4172/2151-6219.1000209
- [39]. Rucha Hemant Rangnekar, Khyati Pradeep Suratwala, Sanjana Krishna, Dr. Sudhir Dhage(2018),”Career Prediction Model Using Data Mining And Linear Classification “,978-1-5386-5257-2/18/\$31.00 2018 IEEE
- [40]. V. Sai kuswanth, Gogineni Krishna Chaitanya, B.Sekhar Babu, Uppuluri Lakshmi Soundharya (2019),“Machine Learning Approach for Student Career assessment in the modern world”,International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-7, Issue-6S, March 2019 699
- [41]._M.L.Waghmode, Jamsandekar(2016),” Expert system for Career Selection: A Classifier Model”, Volume 4, Issue 1, January 2016 International Journal of Advance Research in Computer Science and Management Studies , ISSN: 2321-7782 ,Research Article / Survey Paper / Case Study Available online at: www.ijarcsms.com
- [42]. Heena Sabnani, Mayur More, Prashant Kudale, Prof. Surekha Janrao (2018)” Prediction of Student Enrolment Using Data Mining Techniques”, International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 05 Issue: 04 | Apr-2018 www.irjet.net p-ISSN: 2395-0072.
- [43]. SVinayak Hegde et al 2019 “Design and implementation of framework for higher education enrolment through ICT enabled application using JEE” IOP Conf. Ser.: Mater. Sci. Eng. 561 012120
- [44]. A Framework For Analytical Services Using Data Mining Techniques to Predict the Enrollment of Student At A University – A Case Study
- [45]._lakshmi prasanna, DR.D.Haritha (2019)”Smart Career Guidance and Recommendation System”, © IJEDR 2019 | Volume 7, Issue 3 | ISSN: 2321-9939
- [46]. Archana Parab, Siddhesh Palkar; Satish Maurya; Sonal Balpande(2017),” An Intelligent Career Counselling Bot A System for counseling”, International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056 Volume: 04 Issue: 03 | Mar -2017 www.irjet.net p-ISSN: 2395-0072
- [47]. Dr. Gufran Ahmad Ansari (2017) “Career Guidance through Multilevel Expert System Using Data Mining Technique” I.J. Information Technology and Computer Science, 2017, 8, 22-29 Published Online August 2017 in MECS (<http://www.mecspress.org/>) DOI: 10.5815/ijitcs.2017.08.03
- [48]. Suman Kalyan Panja, Kamal Krishna De(2015) “Attitude Towards Career Guidance and Counselling Among Higher Secondary School Teachers Under Present Scenario in West Bengal”, Volume : 5 | Issue : 12 | December 2015 | ISSN - 2249-555X
- [49]. Sunita B. Aher (2014),”EM&AA: An Algorithm for Predicting the Course Selection by Student in e-Learning Using Data Mining Techniques”, J. Inst. Eng. India Ser. B (January–March 2014) 95(1):43–54, DOI 10.1007/s40031-014-0074-3
- [50]. Heena Sabnani, Mayur More, Prashant Kudale, Prof. Surekha Janrao (2018)” Prediction of Student Enrolment Using Data Mining Techniques”, International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 05 Issue: 04 | Apr-2018 www.irjet.net p-ISSN: 2395-0072.

- [51]. Ms. Roshani Ade, Dr. P. R. Deshmukh (2014),” An incremental ensemble of classifiers as a technique for prediction of student’s career choice”, 978-1-4799-3486-7/14/\$31.00_c 2014 IEEE
- [52]. Career Path R Tajul Rosli Razak1 , Muhamad Arif Hashim2 , Noorfaizalfarid Mohd Noor3 , Iman Hazwam Abd Halim4 , Nur Fatin Farihin Shamsul recommendation System for UiTM Perlis Students Using Fuzzy Logic, 978-1-4799-4653-2/14/\$31.00 © 2014 IEEE
- [53] Kartikey Joshi, Amit Kumar Goel, Tapas Kumar 2020, Online Career Counsellor System based on Artificial Intelligence: An approach IEEE 7th International Conference on Smart Structures and Systems ICSSS 2020

5. Cloud Computing's Effects on Education Sector

The screenshot shows the UGC-CARE List search results page. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/SearchList>. The page title is "UGC-CARE List". A search bar indicates the search term "0025-0422" and shows "Total Journals : 1". A table lists the search results:

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of the Maharaja Sayajirao University of Baroda	Maharaja Sayajirao University of Baroda	0025-0422	NA	from June-2019 to Present	View

Below the table, it says "Showing 1 to 1 of 1 entries" with "Previous" and "Next" navigation buttons. The footer includes "Copyright © 2024 Savitribai Phule Pune University. All rights reserved. | Disclaimer".

The screenshot shows the UGC-CARE List journal details page. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?JournalId=101000039&flag=Search>. The page title is "UGC-CARE List". The "Journal Details" section provides the following information:

Journal Title (in English Language)	Journal of the Maharaja Sayajirao University of Baroda
Publication Language	English
Publisher	Maharaja Sayajirao University of Baroda
ISSN	0025-0422
E-ISSN	NA
Discipline	Science
Subject	Agricultural and Biological Sciences (all) , Biochemistry, Genetics and Molecular Biology (all) , Engineering (all) , Mathematics (all)
Focus Subject	General Agricultural and Biological Sciences , General Biochemistry, Genetics and Molecular Biology , General Engineering , General Mathematics
UGC-CARE coverage years	from June-2019 to Present

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Journal- https://www.msubaroda.ac.in/MSUB_Journal



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Estd. 1949

Journal of
The Maharaja Sayajirao University of Baroda

Certificate of Publication

Certificate of publication for the article titled:

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Authored by

Dr Abhijeet Kaiwade

HoD Sadhu Vaswani Institute of Management Studies for Girls, Pune

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CLLOUD COMPUTING'S EFFECTS ON EDUCATION SECTOR

Dr Abhijeet Kaiwade^{*1}

Niraj Bagwe^{*2},

Ms. Shreya Vibhute^{*3}

Sadhu Vaswani Institute of Management Studies for Girls, Pune-01

I. ABSTRACT:

The social and economic growth of each and every country depends on Education. Education plays very vital role in the development of the country. In today's world students are techno- oriented. They use innovative new technology for learning and improving their knowledge. Nowadays, various educational institutes' use different types of technologies for teaching purposes which are based on cloud computing. During pandemic, cloud has taken hike in each and every technical and educational sector. Everyone can use cloud computing applications domain and resources anytime and anywhere through internet. This paper illuminates how cloud computing plays vital role in Educational sector and how quality education is shared to the students through cloud based technology.

KEYWORDS: Cloud Computing, Cloud deployment models, Infrastructure, Virtualization

II. INTRODUCTION

A network or Internet service that is present at a distant location is referred to as the "Cloud." It can be controlled by either public or private networks, like a LAN or WAN. Email, web conferencing, and CRM are some of the apps that leverage cloud services. Email, online conferencing, and customer relationship management (CRM) programs are run in the cloud.

Consider a time before cloud computing when purchasing a stack of servers was required to host a website. The cost of the servers and their installation is well known. Troubleshooting was a significant problem that made it impossible to concentrate on business; as a result, we either had to multitask or recruit more personnel. Cloud computing was developed to solve all these issues and lower the cost of infrastructure.

Characteristics

Interesting aspects of cloud computing make it advantageous for both cloud service providers and customers.

1. Self-serve on demand

In cloud computing, numerous customers can simultaneously share the same resources and applications from different locations. These cloud resources and services are available on-demand and do not require direct contact with the service provider.

2. Wide-ranging network access

Through a variety of devices, including mobile phones, tablets, computers, and other computing devices, the services can be accessed online whenever and wherever you are in the world.

3. Resource Combination

Multiple users can pool resources like network connections, bandwidth, virtual server storage, etc. simultaneously from any location without interfering with each other.

4. Quick Elasticity

Customers openly increase or decrease the resources based on their computing requirements.

5. Scalability

Customers have the option of adjusting the resource capacity to meet their demands.

6. Measured service

Pay-as-you-go, or cloud computing, charges for only the resources that are actually used by consumers. It automatically keeps track of, regulates, optimizes, and reports resource consumption, giving both suppliers and consumers access to information.

Cloud computing provides crucial services.

The following are the top three services that cloud computing offers.

1. Software as Service(SAAS)
2. Platform as a Service(PAAS)
3. Infrastructure as a Service(IAAS)

Software as Service(SAAS)

SAAS refers to the capacity to use web browsers to access programs that are hosted in a cloud environment and are given by the provider.

Users may access these programs on the internet at any time and from any location using devices including smartphones, laptops, desktop computers, and tablets. The user need not be concerned with internal storage, platform, network, etc. in this case. The service provider will handle everything.

Platform as a Service (PAAS)

This service looks after the hardware, operating system, database, and middleware for a developer that creates user-defined applications.

Users have control over the configuration options for the application-hosting environment as well as the apps they have installed.

Infrastructure as a Service (IAAS)

The customer may set up and operate operating systems and other applications by arranging processor, storage, networks, and other basic computer resources. The fundamental cloud infrastructure is left untouched even while the cloud customer can create total control over operating systems, storage, and installed applications.

Models of cloud computing deployment

When you say "deployment model," do you mean the method of accessing the cloud, or where it is located? The sorts of access that cloud uses are as follows.

- Public
- Private
- Hybrid
- Community

1. Public

Through public cloud, the general public may readily access the systems and services. The well-known cloud service companies, like Google, Amazon, and Microsoft Azure, offer public services online.

2. Private

It simplifies access to systems and services inside a company. It may be controlled internally by the organization.

3. Hybrid

There are elements of both public and private clouds. Here, the user can utilize both services at once. Critical tasks are carried out on private clouds and non-critical tasks on public clouds.

4. Community

It enables a collection of organizations to access the system and services. It provides infrastructure for a number of organizations in a particular locality. It might be handled by an organization internally.

III. CLOUD COMPUTING IN EDUCATION SECTOR:

Nowadays anything can be found online, carrying around textbooks is a thing of the past. But cloud computing has advanced things to a new level. Information is now more readily available and for this,

thanks to the cloud architecture, which has removed the need for a complicated file system. The process is significantly faster and more effective than downloading large files.

Teachers and professors are now equally reachable. You may collaborate on projects and get assistance at any time and from any location. This enables a cutting-edge method of instruction that puts many pupils at ease. Students and teachers can interact more readily, thanks to the adoption of online learning management systems.

Teachers, administrators, and students may all benefit from cloud computing in higher education for their educational-related tasks. It enables administrators to quickly interact with one another, students to access their schoolwork, and teachers to contribute educational resources while saving money on data storage. The market is expected to develop as a result of rising SAAS-based cloud platform use in higher education and rising e-learning adoption. The market is also anticipated to increase as a result of rising IT spending on cloud infrastructure in the education sector and increasing quantum computing usage.

Despite the motivating incentives, it is predicted that cyber security and data protection threats would limit industry expansion. Additionally, it is predicted that issues with law and jurisdiction and a failure to comply with SLAs will severely affect industry growth. Additionally, throughout the anticipated period, market development is anticipated to be hampered by the restrictive design of cloud-based systems.

Schools and students do not need to buy specialized PCs or laptops in order to access materials because cloud-based programs operate on web browsers and are compatible with the majority of mobile devices. You can access relevant academic apps using even a low-cost smart phone. Furthermore, since there are many platforms that offer free cloud-based storage services, there is no need to spend money on external storage devices.

Students can upgrade their approach to study, thanks to the access of cloud infrastructure. An open-source software programmer called course management software, like Moodle or Google Classroom, is intended to assist teachers in developing successful online learning. Professors may now rapidly and effectively exchange their notes and class ideas. This makes e-learning easier and does away with the need for bulky, out-of-date textbooks. Additionally, these hosting services give students access to a variety of tools, including grades, forums, and even class rosters.

MERITS OF CLOUD EDUCATION SYSTEM:

The following merits of cloud computing in education include:

- a) **Personalized Learning:** Using a cloud-based education system, students may access a variety of materials, share them with others, and access their data from any location at any time. They can also sign up for online classes and take part in group projects.
- b) **Cost-Effectiveness:** There is no need to physically purchase hardware and software. At a lower cost, it offers a virtual environment.
- c) **Service Availability:** Users may access cloud-stored data from anywhere at any time, regardless of their current location.
- d) **Low Maintenance:** Because of virtual infrastructure, maintenance costs are reduced almost to zero.
- e) **Storage Capacity:** Compared to other storage devices, it can store a lot more data for any cloud user.
- f) **Security:** Cloud technology ensures data integrity, confidentiality, and privacy so that only authorized users have access to stored information.
- g) **Performance:** By sharing infrastructure, cloud computing enables users to modify system setup, boosting system speed and performance.
- h) **User and environmental friendly:** Using cloud services is quite simple, there is no need to worry about complexity, and it unquestionably lowers carbon footprints.

IV. Conclusion

In order to improve service efficiency and provide us access to our data and information anywhere, at any time, and to share it with other cloud users, this paper discusses the cloud computing system and its influence on the education sector. This essay discusses the notion of cloud computing and how it may help students, professors, and educational institutions deliver high-quality instruction while utilizing cutting-edge technology.

V. REFERENCES

1. “Cloud Computing: Concepts and Technologies Hardcover”, by Sunil Kumar Manvi (Author), Gopal Shyam (Author)
2. www.sam-solutions.com/blog/four-best-cloud...
3. www.branex.com/blog/cloud-service-models-saas-vs...
4. [http://www.thesmallbusiness.org/software/benefits-of cloud computing](http://www.thesmallbusiness.org/software/benefits-of-cloud-computing)
5. <http://www.allthingscrm.com/cloudcomputing/understanding>

6. Enhancing Online Shopping Experience Through Web Mining: Analysis and Recommendations

The screenshot shows the 'UGC-CARE List' search results page. The search criteria are '2278-4632', resulting in 1 journal entry. The table below lists the journal details:

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Juni Khyat	Maru Bhumi Shodh Sansthan	2278-4632	NA	from June-2019 to Present	View

Showing 1 to 1 of 1 entries. Navigation: Previous 1 Next

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The screenshot shows the 'Journal Details' page for the journal 'Juni Khyat'. The details are as follows:

Journal Title (in English Language)	Juni Khyat
Journal Title (in Regional Language)	जुनी ख्यात
Publication Language	English , Hindi
Publisher	Maru Bhumi Shodh Sansthan
ISSN	2278-4632
E-ISSN	NA
Discipline	Social Science
Subject	Social Sciences (all)
Focus Subject	Cultural Studies
UGC-CARE coverage years	from June-2019 to Present

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Journal- <https://www.rbhpsdungargarh.com/pages-patrika.php>

जूनी ख्यात JUNI KHYAT जूनी ख्यात JUNI KHYAT



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जूनी ख्यात JUNI KHYAT जूनी ख्यात JUNI KHYAT

ENHANCING ONLINE SHOPPING EXPERIENCE THROUGH WEB MINING: ANALYSIS AND RECOMMENDATIONS

Dr Abhijeet Kaiwade, HOD, Sadhu Vaswani Institute of Management Studies for Girls, Pune
kaiwade@gmail.com,

Mr Niraj D Bagwe, Research Scholar, Sadhu Vaswani Institute of Management Studies for Girls
and Assistant Professor, Abeda Inamdar Senior College, Pune
bagweniraj@gmail.com,

Ms. Bhagyashree Shinde, Student, Sadhu Vaswani Institute of Management Studies for Girls, Pune.
bhagya.shinde012@gmail.com M 9834070088

Ms. Shreya Vibhute, Student, Sadhu Vaswani Institute of Management Studies for Girls, Pune.
shreyavibhute.sv@gmail.com

ABSTRACT

Today web is the best medium of communication in modern business. Many companies are redefining their business strategies to improve the business output. Business over the internet provides the opportunity to customers and partners where their products and specific business can be found. Nowadays online business breaks the barrier of time and space as compared to the physical office. The analysis of the user's current interest based on the navigational behavior may help the organizations to guide the users in their browsing activity and obtain relevant information in a shorter span of time. Since a user has a specific goal when searching for information, personalized search may provide the results that accurately satisfy user's specific goal and intent for the search. Personalization of web search is to retrieve information according to user's interests which may be inferred from user's action, browsed documents or past query history etc. The Paper focuses on recommender systems based on the user's navigational patterns and provides suitable recommendations to cater to the current needs of the user. This proposal contains the concept of Web Usage Mining which is the discovery and analysis of user access patterns through mining of log files and associated data from a particular website. The data most accessed by user will be stored in log files.

Keywords: Recommender Systems, Web Usage Mining, Collaborative Filtering, Content Based Filtering, Electronic commerce, data mining, web mining.

Introduction

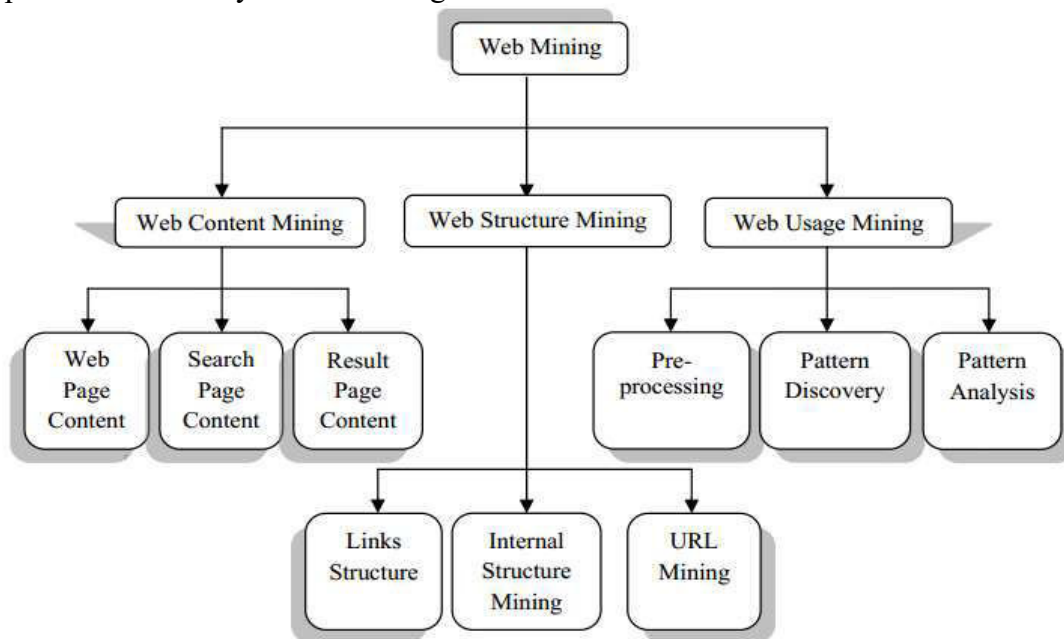
The Web is taking an important role in human's life and day by day it increases the information based on the expectations of the customers using it. Updated information is necessary to fulfill the needs of the users. Web mining is the application of Data Mining to automatically fetch and evaluate information from the web services and documents. Automation is everywhere and, in every field, to avoid human work in creation of anything. Web mining utilizes the automatic way of information extraction from the World Wide Web according to the preferences. With the continuous development of electronic commerce, it is not easy for customers to select merchants and find the most suitable products when they are confronted with the massive product information on the Internet.

In the whole shopping process, customers still spend much time to visit a flooding of retail shops on Web sites and gather valuable information by themselves. This process is much time-consuming, even sometimes the contents of Web document that customers browse are nothing to do with those that they need indeed. So, this will inevitably influence customers' confidence and interests for shopping on the Internet.

In order to overcome the limitations of collaboration filtering, the recommender system based on web mining is proposed in the synopsis. It utilized a variety of data mining techniques such as web usage mining, association rule mining etc. Based on these techniques, the system can trace the

customer’s shopping behavior and learn his/her up-to-date preferences adaptively. All these pose a challenge to researchers to discover web management methods and effective extraction of information from the web.

To understand web mining, we should know all about the data mining techniques available. Figure 1 provides taxonomy of web mining:



Web Content Mining (WCM)

Web Content Mining is the process of extracting use full information from the contents of web documents. Web documents may consist of text, images, audio, video or structured records like tables and lists. Mining can be applied on web documents as well the results pages produced from a search engine.

Web Usage Mining (WUM)

Web Usage Mining is the process of extracting use full information from the secondary data derived from the interactions of the user while surfing on the Web. It extracts data stored in server access another page may be considered as a vote. However, not only the number of votes a page receives is considered important, but the “importance” or the “relevance” of the ones that cast these votes as well.

Web Structure Mining

The goal of Web Structure Mining is to generate structural summary about the Web site and Web page. It tries to discover the link structure of the hyperlinks at the inter-document level.

Related Work

This system involves integration of web mining techniques with an e-commerce application. This integration facilitates e-store owners to improve the features and services and also it will help to get information about the customer’s or consumer’s behavior of visiting web products and services.

There are many areas where data mining can be very helpful when integrating with e-commerce. Some of them are: Data mining in customer profiling (Customer profiling means searching for the data which is collected from existing customers of an business organization for patterns that will allow that business organization to predict about who are the potential customers are and how

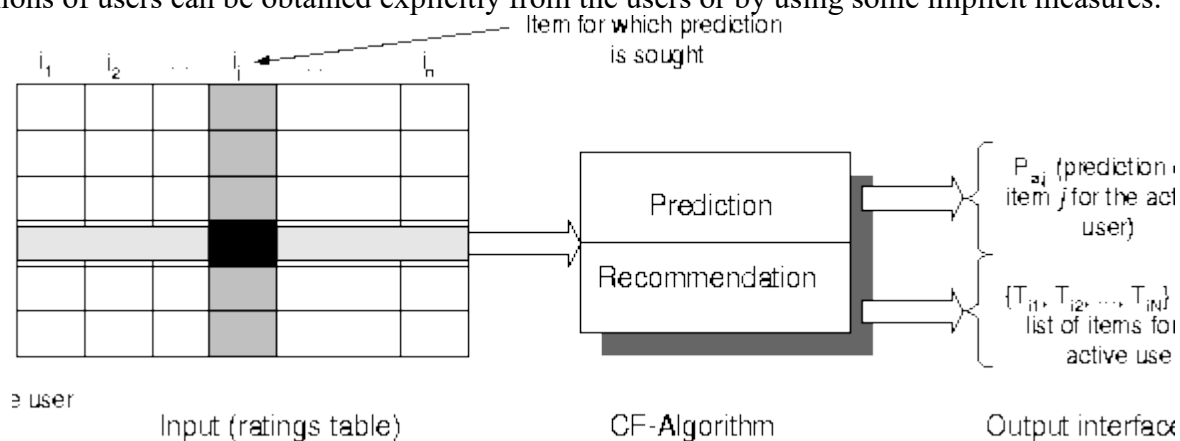
those customers are behaving), Data mining in recommendation systems, Data mining in web personalization, Data mining and multimedia e-commerce, Data mining and behavior of consumer in e-commerce. Online Recommendation exists and is being used by many shopping websites. Many algorithms, permutations and combinations, Associations will be used to create online recommendation. There are many different ways through which a system can be created.

Some algorithms used in general are:

1. Collaborative filtering:
 - Item to Item.
 - User to User.
2. Content Based Filtering:

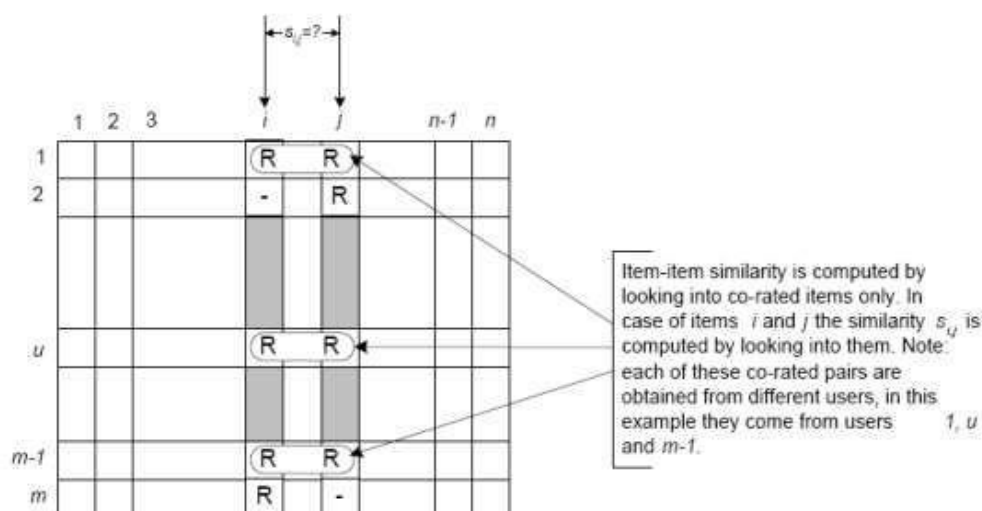
A. Collaborative Filtering Based Recommender System:

Recommender systems [1]-[2] apply data analysis techniques to the problem of helping users find the items they would like to purchase at E-Commerce sites by producing a predicted likeliness score or a list of top-N recommended items for a given user. Item recommendations can be made using different methods. Recommendations can be based on demographics of the users, overall top selling items, or past buying habit of users as a predictor of future items. Collaborative Filtering (CF) is the most successful recommendation technique to date. The basic idea of CF-based algorithms is to provide item recommendations or predictions based on the opinions of other like-minded users. The opinions of users can be obtained explicitly from the users or by using some implicit measures.



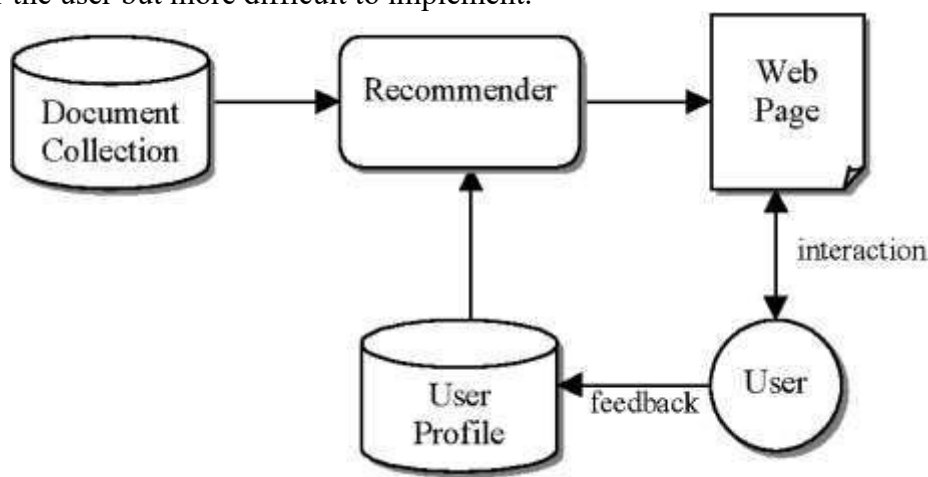
• Item-Based Collaborative Filtering Algorithm:

In this section we study a class of item-based recommendation algorithms for producing predictions to users. Unlike the user-based collaborative filtering algorithm, the item-based approach looks into the set of items the target user has rated and computes how similar they are to the target item i and then selects k most similar items $\{i_1, i_2, \dots, i_k\}$. At the same time their corresponding similarities $\{S_1, S_2, \dots, S_k\}$ are also computed. Once the most similar items are found, the prediction is then computed by taking a weighted average of the target user's ratings on these similar items. We describe these two aspects, namely, the similarity computation and the prediction generation in details here



B. Content Based Filtering:

A content-based filtering system selects items based on the correlation between the content of the items and the user’s preferences as opposed to a collaborative filtering system that chooses items based on the correlation between people with similar preferences. PRES is a content-based filtering system. It makes recommendations by comparing a user profile with the content of each document in the collection. The content of a document can be represented with a set of terms. Terms are extracted from documents by running through a number of parsing steps. First all HTML tags and stop words (words that occur very often and cannot be used as discriminators) are removed. The remaining words are reduced to their stem by removing prefixes and suffixes [Porter 1980]. For instance, the words “computer”, “computers” and “computing” could all be reduced to “compute”. The user profile is represented with the same terms and built up by analyzing the content of documents that the user found interesting. Which documents the user found interesting can be determined by using either explicit or implicit feedback. Explicit feedback requires the user to evaluate examined documents on a scale. In implicit feedback the user’s interests are inferred by observing the user’s actions, which is more convenient for the user but more difficult to implement.



Proposed System:

Online recommendations are already in use. But Different ways and algorithms are used for building it. We have tried to make a comparative study of the techniques which were used in the previous systems. We have combined algorithms and made it efficient and other measures of efficiency such as high speed, minimum memory usage.

Our Proposed System works in 5 phases:

Phase 1: Sort Phase

The database (D) is sorted, with customer-id as the major key and transaction-time as the minor key. This step implicitly converts the original transaction database into a database of customer sequences.

Phase 2: Large Item-set Phase

In this phase we find the set of all L-item sets. We are also simultaneously finding the set of all large 1-sequences, since this set is just $\{(l) | l \in L\}$.

Phase 3: Transformation Phase

In a transformed customer sequence, each transaction is replaced by the set of all L-item sets contained in that transaction. If a transaction does not contain any l-item set, it is not retained in the transformed sequence. If a customer sequence does not contain any l-item set, this sequence is dropped from the transformed database. However, it still contributes to the count of total number of customers.

Phase 4: Sequence Phase

Use the set of l-item sets to find the desired sequences. Algorithms for this phase are:

1. Apriori All

The Apriori All algorithm uses each pass to find large sequences from the previous pass to generate the candidate sequences and then measure their support by making a pass over the database. At the end of the pass, the support of the candidates is used to determine the large sequences.

In the first pass, the output of the L item set phase is used to initialize the set of large 1-sequences. The candidates are stored in hash-tree to quickly find all candidates contained in a customer sequence.

2. Apriori Some

1. Two of the proposed algorithms, Apriori some and Apriori-All, have comparable performance, albeit Apriori Some performs a little better when the minimum number of customers that must support a sequential pattern is low. 2. The major advantage of Apriori Some over Apriori-All is that it avoids counting many non-maximal sequences.

Phase 5: Maximal Phase (Output Phase)

Find the maximal sequences among the set of large sequences. In some algorithms, this phase is combined with the sequence phase to reduce the time wasted in counting non-maximal sequences.

Conclusion

Online Recommendation System for a shopping cart, an application that enables the user to search for and receive recommendations to find the product based on the previously searched products. The search result comprises a large number of products. Hence the recommendation system cuts down the burden on the user by recommending the products that best fits his preferences by placing them at the top. This recommendation is retrieved from the log files. Explicit feedback leads to an increase in the user's frustration level. The recommendation process uses implicit feedback. The feedback is obtained by making some observations on the user's purchase history. The online recommendation system for shopping cart makes successful recommendations by using the technique of assigning feature weights and user specific preference-based recommendations.

References

- ✚ Rakesh Agrawal , Ramakrishnan Srikant , “Mining Sequential Pattern” IBM Almaden Research Center,650 Harry Road, San Jose, CA 95120
- ✚ C.P. Sumathi, R.Padmaja Valli, T. Santhanam ,“Automatic Recommendation of web pages in Web Usage Mining”, (IJCSSE)International Journal of Computer Science and Engineering, Vol 02,No 09,2010,3046-3052

- ✚ Zhu Xinjuan, Huang junfang, Shi Meihang,” An Intelligent on-line recommendation system in B2c apparel e-commerce ”, Department of Computer Science, Xi’an Polytechnic, University, International Conference on E-Business and E-government,2010
- ✚ Guandong Xu, “ Web Mining Techniques for Recommendation and Personalization ” , Dissertation submitted to the School of Computer Science and Mathematics, Victoria University, Australia, March 2008.
- ✚ http://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=1111&context=etd_projects
- ✚ Dipa Dixit, Jayant Gadge,” Automatic Recommendation for online users using Web Usage Mining”, International Journal of Management Information Technology(IJMIT),Vol 02,No 03, August 2010 [9] http://en.wikipedia.org/wiki/Web_mining
- ✚ Jaideep Srivastava, Robert Cooley, Mukund Deshpande, “Web Usage Mining- Discovery and Application of Usage Pattern”, Department of Computer Science and Engineering, University of Minnesota, MN55455
- ✚ DB Desai, Abhijeet Kaiwade, “The effects of mobile games on male adolescents using data mining techniques-A review” International Journal of Computer Applications Technology and Research, Vol 09, Issue 01, 2020, https://www.researchgate.net/profile/Deelip-Desai/publication/338221840_The_Effects_of_Mobile_Games_on_Male_Adolescents_using_Data_mining_techniques-_A_Review/links/5e089143299bf10bc381226a/The-Effects-of-Mobile-Games-on-Male-Adolescents-using-Data-mining-techniques-A-Review.pdf
- ✚ B. Bhamangol, A. Kaiwade, B. Pant, A. Rana, A. Kaiwade and A. Shaikh, "An Artificial Intelligence based Design and Implementation for classifying the Missing Data in IoT Applications," 2022 5th International Conference on Contemporary Computing and Informatics (IC3I), Uttar Pradesh, India, 2022, pp. 1376-1382, doi: 10.1109/IC3I56241.2022.10072634.
- ✚ Kadam, S. C., & Kaiwade, A. (2019). Data Mining: Process of Knowledge Invention. INTERNATIONAL JOURNAL OF ADVANCES IN COMPUTING AND MANAGEMENT, 38, 25.

7. Identifying and Implementing Influencing Factors to Boost Model Accuracy Using Machine Learning Techniques While Course Selection

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Authored By

Dr. ABHIJEET KAIWADE,

Department of Computer Management, Sadhu Vaswani Institute of Management Studies, Pune

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IDENTIFYING AND IMPLEMENTING INFLUENCING FACTORS TO BOOST MODEL ACCURACY USING MACHINE LEARNING TECHNIQUES WHILE COURSE SELECTION

Shital C.Kadam Department of Computer Management, Sadhu Vaswani Institute of Management Studies, Pune Email:s.kadam03@gmail.com

Dr. Abhijeet Kaiwade Department of Computer Management, Sadhu Vaswani Institute of Management Studies, Pune Email:abhijeet.kaiwade@gmail.com

Abstract

By examining the relevant literature, many factors can be determined as effecting factors on course selection process after 12th class. Many students and parents always faced confusion while selecting appropriate course. This research is aimed at identifying influencing factors such as HSC score, entrance score, family income, personality feature, extra coaching etc while course selection. Descriptive research method using a survey was used for the present study. The online questionnaires were used to collect data from the students who are perusing course from various streams such as medical, engineering, animation, commerce and management. Convenience sampling method was used to determine the participants of the study. A total of 91 student's data from all stream were collected for the study. Google colab was used for the study. Various selection methods in machine learning such as Chi-Squared, select best, mutual info gain, Tree-based: SelectFromModel considered for the study to find the influencing factors. The study was mainly focus on to find out influencing factors which make impacts while course selection.

Keywords:

course selection, influencing factors, data analysis

LINTRODUCTION

One of many important choices that students will make in determining future plans is selecting course after completion of his or her higher secondary schooling. It involves of many factors which are directly or indirectly affects for choosing right course. Selecting course is not a straightforward task as it involves a complex process of decision making. It is observed that Individuals who not selected proper course are misfits in their workplace which lead to less productive and efficient, and therefore could not successes in their goals.[1].The increased use of technology in education is generating a large amount of data every day, which has become a target for many researchers around the world [2] Feature selection has been an active and fruitful field of research area in pattern recognition, machine learning, statistics and data mining communities[4] A number of factors influence students' choice of academic programme[5]. Finding the best set of features that enables the construction of optimized models of the phenomena being examined is the aim of feature selection approaches used in machine learning. Most feature selection methods can be divided into three major buckets [4,6]Filter based: We specify some statistic and based on that filter features. Correlation/chi-square could serve as an illustration of such a statistic. Example: - Chi-Squared: The chi-square metric is calculated between the target and the numerical variable using this procedure, and the variable with the highest chi-square values is the one that is chosen.[3,6]Pearson Correlation: it comes under filter-based method. We look at the Pearson's correlation's absolute value between the target feature and the numerical characteristics in our dataset. On the basis of this criterion, we retain the top n features. [3, 6]Wrapper-based: When choosing a collection of features, wrapper approaches view the task as a search problem. Example: Recursive Feature Elimination [3, 6].Recursive Feature Elimination: Recursively evaluating fewer and smaller sets of features is the aim of recursive feature elimination (RFE), which is used to choose features. The importance of each feature is first determined by training the estimator on the original set of features, either using the coef_ attribute or the feature importance_ attribute. The least crucial features are then removed from the present list of features. Once the appropriate number of features to

pick has been reached, the technique is recursively repeated on the pruned set. [3, 6]Mutual Information Feature Selection: Application of information gain (typically used in the building of decision trees) to feature selection is mutual information, which comes from the field of information theory. Mutual information, which is computed between two variables, gauges how much uncertainty there is in one variable when the other's value is known. [3, 6]Embedded: Algorithms with built-in feature selection techniques are used in embedded approaches. Lasso and RF, for instance, each have unique feature selection processes. Lasso: SelectFromModel This approach is embedded. As previously stated, embedded approaches employ algorithms with built-in feature selection strategies. [3, 6].Tree-based SelectFromModel Using node impurity in each decision tree, we determine the relevance of each feature. The average of all decision tree feature importance is used in Random Forest to determine the final feature importance.[3]. In the current study we have used futures selection methods such as Pearson's correlation, Chi-Squared, Recursive Feature Elimination, Lasso: SelectFromModel, Tree-based: SelectFromModel and evaluated which features will get based on all the methods. Feature selection has proven in both theory and practice to be effective in enhancing learning efficiency, increasing predictive accuracy and reducing complexity of learned results [3].

Following are the research objectives:

- 1) To identify the factors considered for Graduate Course selection process.
- 2) To find most influencing factors for Graduate Course selection process using ML techniques.

The remaining section of the paper is structured as follows: Section II discusses the literature, Section III explains the methodology and Section IV highlights the results and discussion followed by Section V conclusion and future enhancements

II. LITERATURE SURVEY

In [7]showed that the family is a significant factor in determining children's career choice also the ability of the learner and teachers influence affects while selection of career choice of their learners. Parents are the most influential or important person or factor which considered while selection course, college and university [8].major factors are family members and peers have an influence in the students' career choice decision making [9].In [10] showed in their study that parental education, family income, and family head's occupational status affect positively with offspring's educational achievement. In another research showed the significant influences of demographic variables on the determinants of university choice. For the study Demographic factors such as gender, family income level, high school types, and whether having a work or not during the study period were considered. It is proved that the quality of staff was the most important selection criterion and the advice of high school teachers was the least important criterion [11].In [12] focused on to identify the demographic factors that influence on three important variables like the readiness of the student towards e-learning environment and knowledge and level of comfort in technology they use.[5] inferred that the majority of B. Ed. (Early Grade) students in CAGRIC select their program based on their enthusiasm for working with children and teaching. They are primarily affected by choice of the students' professors, families, and peers. They decide to enroll in the program at CAGRIC because of its location, the presence of some eminent teachers, and the ease of access to learning resources. Prior to choosing the school, past and current students primarily provide them with information about it. The filter and PCA methods performed less well at identifying relevant features that were correlated with the SVM-RBF model results for classification of the WA dataset than the embedded and wrapper methods based on predictive models. The embedded and wrapper methods based on predictive models outperformed the filter and PCA methods at finding pertinent features that were correlated with the SVM-RBF model results for classification of the WA dataset [6].In [4] conducted a comparative analysis of six filter feature section methods in order to determine the most effective approach and the ideal dimensionality of the feature subset. Different classifier models were later deployed to benchmark the filter feature selection method. The findings of this research effectively confirmed the well-known fact that the predictive accuracy increases with the presence of fewer features. Compared four classifiers method

Random Forest (RF), Support Vector Machines (SVM), K-Nearest Neighbors (KNN), and Linear Discriminate Analysis (LDA). With different features selection method RF, RFE, and Boruta to select the best classifiers method based on the accuracy of each classifier. varImp()by RF become the best features selection method compared to Boruta and RFE.[13].In[14]From the viewpoint of STEM students at a South African university, the researcher addressed the meaning of interpersonal, intrapersonal, and outcome expectations with regard to career decision-making. According to the hermeneutic phenomenological method's findings, families, personalities, and expectations had a significant impact on the decision-making process for each career decision-making. Utilizing the SPSS and Amos software, methodologies including Cronbach's Alpha, exploratory factor analysis, confirmatory factor analysis, regression, and structural equation modeling were used to examine the relationships between variables and make inferences about the variables influencing students' career decisions. The findings showed that key factors influencing students' decisions to choose a major included influential individuals, interests, financial resources, and job possibilities. Students took into account their interests when deciding on a major because doing so could inspire them to build their own skills[15].In[16]Four factors, including intrinsic factors like personal interest, career advancement, and personality traits; extrinsic factors like prestigious jobs, well-paying employment, and job security; interpersonal factors like parental support and influence; older sibling influence, peer influence, and institutional factors, are identified by this study's results using the KMO test, Bartlett's Test of Sphericity, Exploratory Factor Analysis, and Confirmatory Factor Analysis (CFA). According to the study's findings, "interest in the subject" has the greatest influence on business students' career decisions. Future job opportunities, subject accessibility, and financial results were found to have little influence. SPSS was used for analysis. As statistical instruments, correlation and multiple regressions were used [17]. Results from ANOVA and t-tests indicate that parental influence is the most important; followed by influences from peers, gender, print media, financial considerations, interest, and other factors [18].In [19] A random forest classifier is equally capable of predicting students' academic success as a deep learning classifier; feature engineering steps do not greatly improve the accuracy of the prediction models and can therefore be eliminated; When compared to deep learning classifiers, random forest or other tree-based classifiers have the benefit of explain ability. Performed comparison of feature selection techniques to identify the key variables that significantly influence categorization performance and enhance prediction model performance. It is suggested to use a novel feature selection CHIMI (Chi-square, mutual information) based on ranked vector score. The experimental findings demonstrate that the proposed models' classification performance is greatly enhanced when the dominant set of the CHIMI method is used [20]. This research uses feature rankings in a filter model to identify the dominant variables, specifically the Info Gain Ratio, the Correlation Feature Selection, and the Chi Square. Based on the results of the feature selection, it was discovered that, aside from the first semester gap, students' retention in college was positively correlated with the following predictors: the number of siblings, family income, language proficiency, aptitude in math, and math grade on the college entrance exam [21].In[22] This study examines the impact of feature selection on Nave Bayes, Artificial Neural Network as Multilayer Perceptron, and J48 decision tree classification accuracy using Info Gain, Gain Ratio, Symmetrical Uncertainty, Relief-F, One-R, and Chi-Square. These classifiers are evaluated against fifteen actual datasets that have undergone feature selection pre-processing. It has been found that classification accuracy can be improved by up to 15.55 percent, and multilayer perceptions seem to be the classifiers that are most responsive to feature selection. In [23] proposed 'Content Similarity Measure (CSM)' algorithm in the healthcare domain. Authors have suggested a constantly evolving sentimental Bag-of-Words method to keep the features current [24].

III. METHODOLOGY

Study is a descriptive cross-sectional study for the purpose of assessing and identifying the influencing factors affecting course selection from Medical, Engineering and Management & commerce stream. Descriptive research method using a survey was used for the present study. The online questionnaires

were used to collect data from the students who are perusing course from various stream such as medical, engineering & commerce and management. Convenience sampling method was used to determine the participants of the study. A total of 91 student’s data from all stream were collected for the study. On the basis of the factors identified from the literature, a questionnaire was prepared and delivered on a convenience base to who are perusing graduation.

IV. EXPERIMENTAL RESULTS AND DISCUSSION

To describe the factors affected to the students while course selection, data file generated from online Google form is converted to comma separated file. Factors such as SSC score, HSC board, HSC scored, Entrance examination, Entrance score, birth order, mothers occupation, father occupation, no of siblings, time spent with friend, time for study, category, parents occupation field, family income, personality features, parent occupation, area of living, thing like to do most, tempted factors were considered in the analyses. In the current study we have applied machine learning techniques such as Chi-Squared, Mutual info, Lasso: SelectFromModel, Tree-based: SelectFromModel and evaluated which features will get based on all the methods. Analysis is based on python code using Google colab. From Fig 1.0 to Fig 3.0 shows the 10 influencing factors while course selection which received after performing feature selection using mutual info,chi2 with select best and tree base SelectFromModel respectively. Study revealed that 10 factors namely SSC Score, Entrance Examination name, Entrance examination score, category, Mother’s Qualification, Father’s job, personality feature mostly considered by students while course selection. While other factors such as birth order, family income, area of living and HSC score were not considered while course selection. Entrance score, personality, 12th/Diploma score, thing to like most, 10th score, Fathers occupation, birth order, tempted factors, graduation score, mother qualification are most influencing factors during the course selection. In the current study compared accuracy of predictive models using Machine learning classifier such as Naïve Bayse, SVM, KNN and Random Forest with feature selection and without feature selection.

The performance evaluation of various classifiers is measured through accuracy, precision, recall, and F1-score and presented graphically through Figs. 3 to 6.

Fig 4.0 shows accuracy of Machine learning classifier such as naïve bayse, SVM, KNN and random forest with feature selection and without feature selection .based: SelectFromModel and evaluated which features will get based on all the methods.

It can be seen that the performance accuracy of classifiers has increased after applying feature selection techniques. The Random Forest classifier showed the best performance with an accuracy of 89% which increased from 74% after applying feature selection technique. Naive bayse, SVM and KNN also showed increase in accuracy from 81%, 59%, 59% to 85%, 74%, and 66% respectively.

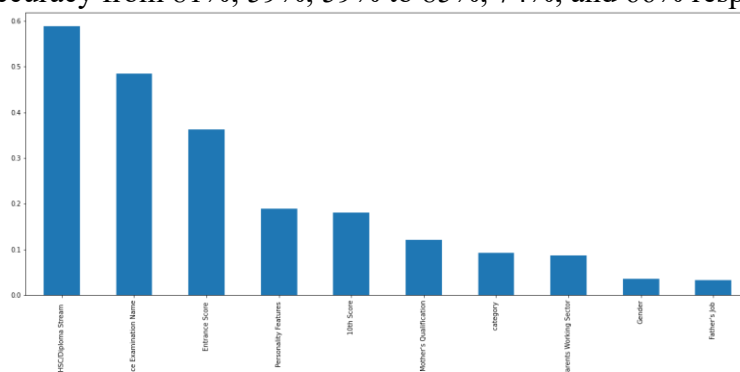


Fig 1.0 Feature Selection-Mutual Info

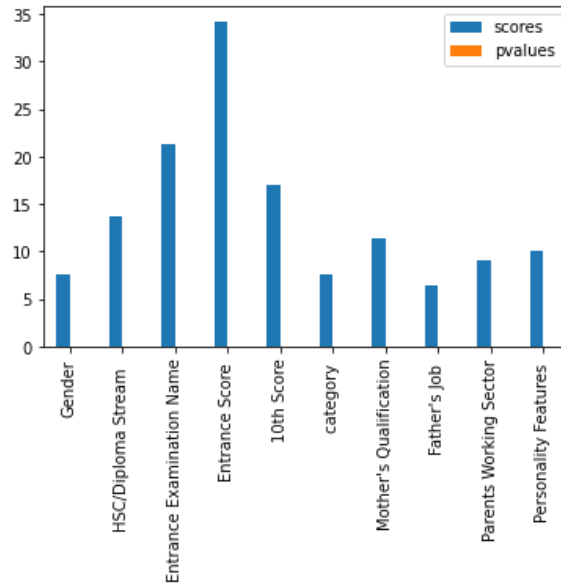


Fig.2.0 Features Selection Chi2

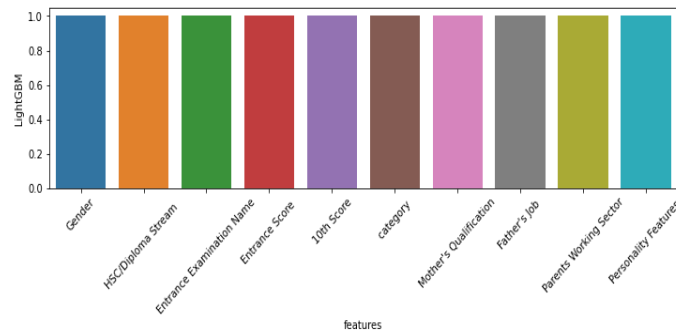


Fig. 3.0 Features Selection using tree base select from model

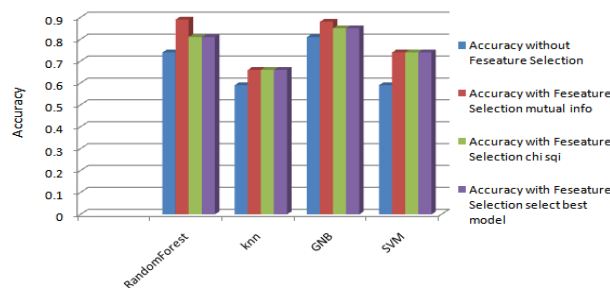


Fig.4.0 Accuracy of the Proposed models in Comparison with Feature selection techniques.

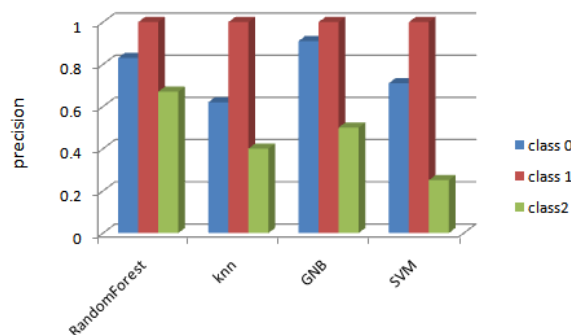


Fig.5.0 Precision

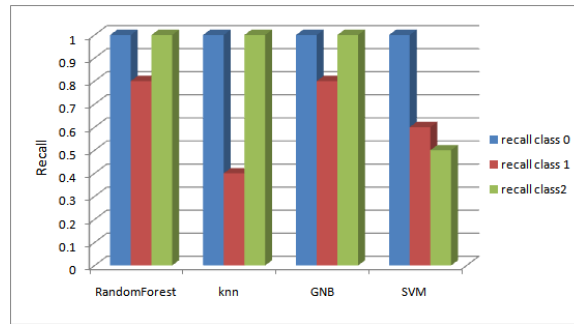


Fig.6.0 Recall

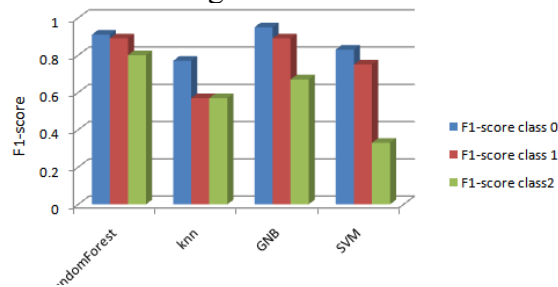


Fig. 7.0 F1-score

From Fig. 9.0 to Fig. 14 shows the confusion matrix of Random Forest, Naive bayse, SVM and KNN classifier with and without feature selections respectively.

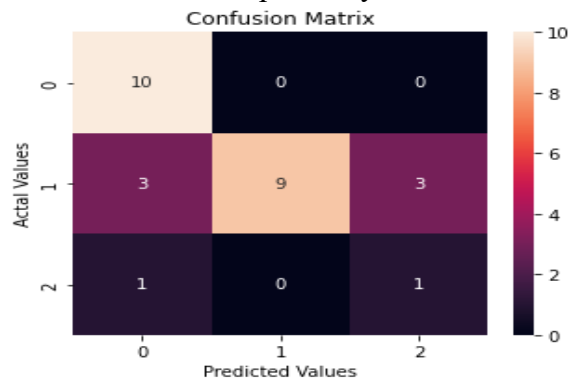


Fig 8.0 Confusion matrix of random forest classifier without feature selection

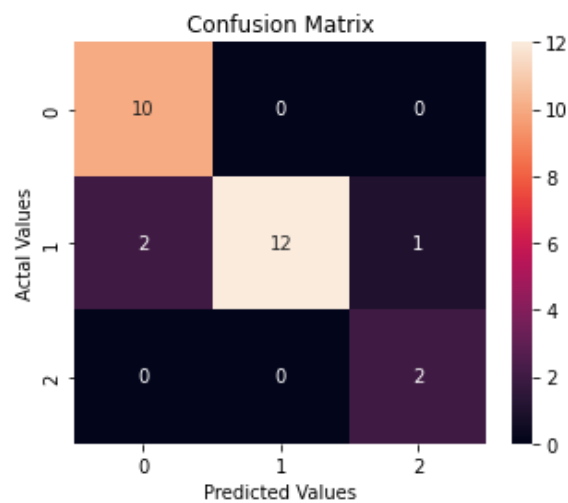


Fig 9.0 Confusion matrix of random forest classifier with feature selection

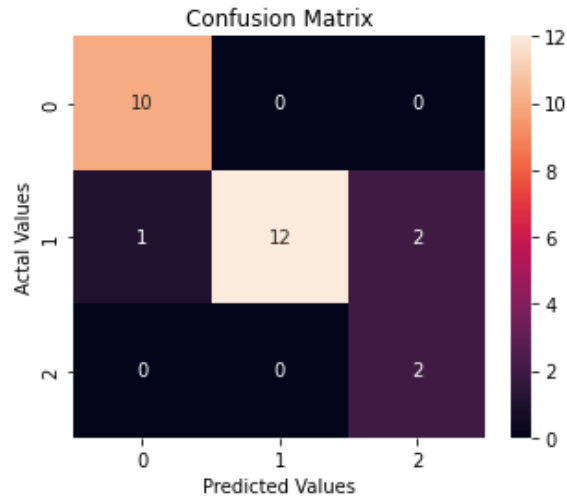


Fig.10.0 Confusion matrix GNB

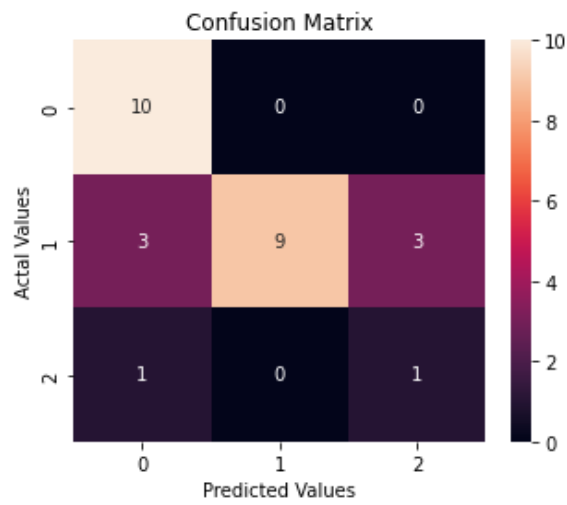


Fig.11.0 Confusion Matrix of SVM classifier without feature selection.

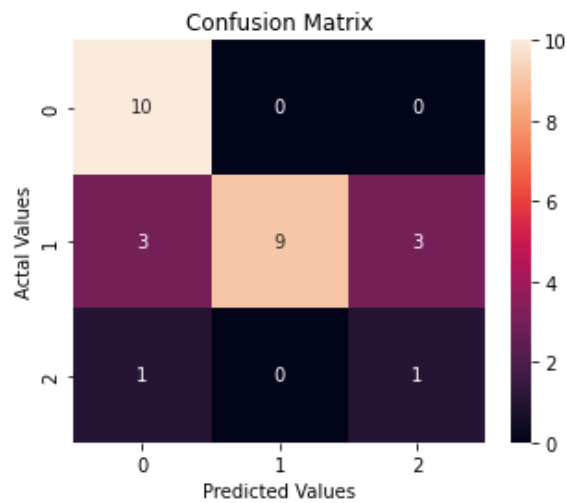


Fig. 12.0 Confusion Matrix of SVM classifier with feature selection

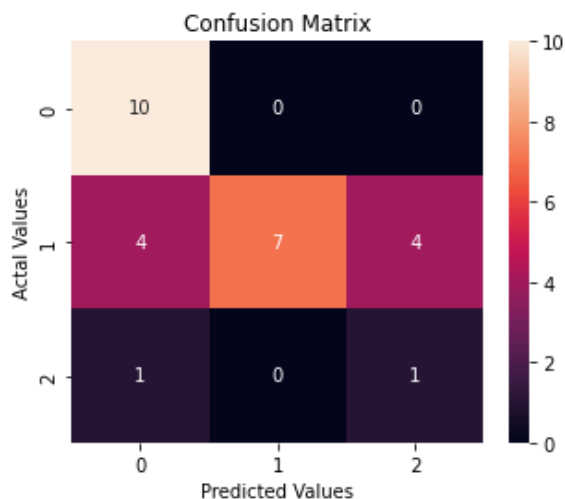


Fig.13.0 Confusion Matrix of KNN classifier without feature selection.

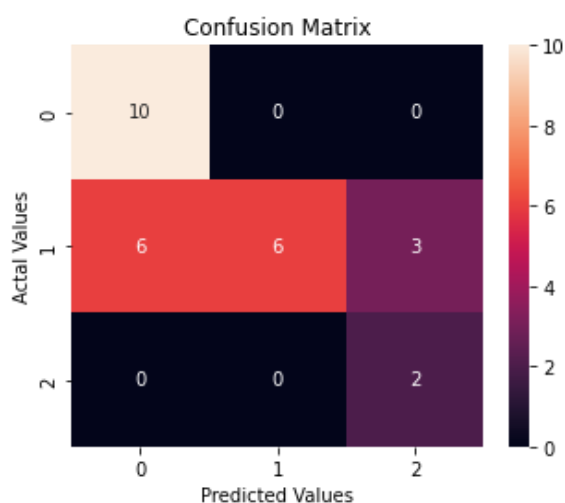


Fig.14.0 Confusion Matrix of KNN classifier with feature selection.

V. CONCLUSION AND FUTURE ENHANCEMENTS

In this study, survey conducted on the students who are perusing graduation course from Medical, Engineering and Commerce & Management streams has aimed to identify influencing factors of students while course choice decision. Machine learning features selection methods such as Mutual info, Chi-Squared, Tree-based: SelectFromModel were applied on the collected data to find out the important features which were considered by the students while course selection. According to the analysis 10 factors namely SSC score, Entrance Eamnationname,Entrancescore,personality,Father’soccupation,motherqualification,hobby,category, HSC/Diploma stream are mostly considered by students while course selection. while other factors such family income, area of living , fathers qualification, HSC board, time spend for study, time set with friends, number of siblings birth order, family income were not considered while course selection. The experimental results show that that the performance accuracy of classifiers has increased after applying feature selection techniques. The Random Forest classifier showed the best performance with an accuracy of 89% which increased from 74% after applying feature selection technique. Naive base ,SVM and KNN also showed increase in accuracy from 81%,59%,59% to 85%,74% ,66% respectively. By using research results, colleges, students and parents can develop a better understanding of which factors affect students’ decision-making process while course selection. Understanding of these influencing factors has become an instrument for course selection.

In the future, the author wants to compare the accuracy of models and increase accuracy by applying Ensemble Learning.

REFERENCES

- [1].FACTORS INFLUENCING ON GRADE 12 STUDENTS' CHOSEN COURSES IN JAGOBIAO NATIONAL HIGH SCHOOL – SENIOR HIGH SCHOOL DEPARTMENT”JV Jane G. Ouanoa, John Fritz Dela L. Torreb, Wenaly I. Japitanc, Jerald C. Monevad, International Journal of Scientific and Research Publications, Volume 9, Issue 1, January 2019 421 ISSN 2250-3153
- [2]“The Influence of Selected Demographic Factors on the Retention of Middle School Instrumental Music Students” Evan Hoylman University of Nebraska – Lincoln, Spring 2-5-2019
- [3]<https://towardsdatascience.com/the-5-feature-selection-algorithms-every-data-scientist-need-to-know-3a6b566efd2>
- [4]M. Ramaswami and R. Bhaskaran(2009)” A Study on Feature Selection Techniques in Educational Data Mining” JOURNAL OF COMPUTING, VOLUME 1, ISSUE 1, DECEMBER 2009, ISSN: 2151-9617 [HTTPS://SITES.GOOGLE.COM/SITE/JOURNALOF COMPUTING/](https://sites.google.com/site/journalofcomputing/)
- [5].Kwadwo Oteng Akyina “FACTORS INFLUENCING CHOICE OF BACHELOR OF EDUCATION (EARLY GRADE) PROGRAMME IN COLLEGE OF AGRICULTURE EDUCATION (CAGRIC), ASANTE MAMPONG”, European Journal of Research and Reflection in Educational Sciences Vol. 7 No. 12, 2019 ISSN 2056-5852
- [6].Johnson John, Bela Erdelyi, Metin Ahiskali “Analyzing Feature Relevance for Social Media Traffic Classification with Machine Learning”,2020
- [7].Shumba, A. & Naong, M. (2012). Factors Influencing Students' Career Choice and Aspirations in South Africa. Central University of Technology, Free State, 169-178.Retrieved from <http://www.ashumba@cut.ac.za&almondshumba@yahoo.com>
- [8].Khoo, K., Ban, T.K., Neng, C.Y., Hooi, B.K. & Joan, C.Y. (2015). Students Choices of choosing Colleges and Course of Study in Penang. ABC Research Alert, 3(1), 1-7. Retrieved from <http://www.abcreal.weebly.com>
- [9].Rababah, A. (2016). Fctors Influencing the Students' Choice of Accounting as a Major: The case of X University in United Arab Emirates. International Business Research, 9(10), 25-32. DOI:10.5539/ibr.v9n10p25
- [10]Leppel, K., Williams, M.L. & Waldauer, C. (2001). The Impact of Parental Occupation and Socioeconomic Status on Choice of College Major. Journal of Family and Economic issues, 22(4), 373-374.
- [11].The Impact of Different Demographic Variables on Determinants of University Choice Decision: A Study on Business Administration Students of the Foundation Universities in Istanbul, Oya Tamtekin Aydın1 İstanbul Bilgi University Fırat Bayır2 İstanbul Aydın University, 1147-1169σ 16(4) σ August 2016 σDOI 10.12738/estp.2016.4.0195
- [12].“A Study on the Relationship Between Demographic Factor and e-Learning Readiness among Students in Higher Education”, B. Naresha , D. Bhanu Sree Reddyb , Uma Pricildac a Research Scholar, VITBS | b Sr. Professor, VITBS | c Associate Professor, VITBS, Sona Global Management Review | Volume 10 | Issue 4 | August 2016
- [13]. Rung-Ching Chen¹ , Christine Dewi^{1,2} , Su-Wen Huang^{1,3*} and Rezzy Eko Caraka¹Selecting critical features for data classification based on machine learning methodsChen et al. J Big Data (2020) 7:52 <https://doi.org/10.1186/s40537-020-00327-4>
- [14] Ethel Ndidiamaka Abe* and Vitallis Chikoko,2020,” Exploring the factors that influence the career decision of STEM students at a university in South Africa”, Abe and Chikoko International Journal of STEM Education (2020) 7:60 <https://doi.org/10.1186/s40594-020-00256-x>
- [15] Trong Luan Nguyena, *, Huu Tri Nguyenb , Ngoc Han Nguyenb , Dai Loi Nguyenb , Thi Thu Dao Nguyenb , Duy Linh Le,2023,” Factors affecting students' career choice in economics majors in the COVID-19 post-pandemic period: A case study of a private university in Vietnam”,

<https://doi.org/10.1016/j.jik.2023.100338> 2444-569X/© 2023 The Author(s). Published by Elsevier España, S.L.U. on behalf of Journal of Innovation & Knowledge. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

[16] Sakira Lamichhane¹ , *Santosh Kumar Gurung² , Ramkrishna Chapagain² , Ravindra Prasad Baral² , Subas Adhikari³” Factors Influencing Career Choice among Business Administration Students of Pokhara University”, THE BATUK : A Peer Reviewed Journal of Interdisciplinary Studies Vol. 8, Issue No. 2, July 2022, Page: 14-31 ISSN 2392-4802

[17] Kazi Afaq Ahmed, Nimra Sharif and Nawaz Ahmad (2017)," Factors Influencing Students' Career Choices: Empirical Evidence from Business Students ", Journal of Southeast Asian, Journal of Southeast Asian Research <http://ibimapublishing.com/articles/JSAR/2017/718849/> Vol. 2017 (2017), Article ID 718849, 15 pages DOI: 10.5171/2017.718849

[18] 1Asma Shahid Kazi, 2Abeeda Akhlaq “Factors Affecting Students’ Career Choice”, Journal of Research and Reflections in Education December 2017, Vol., No.2, pp 187-196 <http://www.ue.edu.pk/jrre>

[19]. Ali Al-Zawqari * , Dries Peumans, Gerd Vandersteen,” A flexible feature selection approach for predicting students’ academic performance in online courses”, journal homepage: www.sciencedirect.com/journal/computers-and-education-artificial-intelligence

[20]. Phauk Sokkhey¹, Takeo Okazaki(2020), “Study on Dominant Factor for Academic Performance Prediction using Feature Selection Methods”, (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 11, No. 8, 2020

[21]. January D. Febro,” Utilizing Feature Selection in Identifying Predicting Factors of Student Retention” (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 10, No. 9, 2019

[22] Esra Mahsereci Karabulut^a , Selma Ayşe Özel^b , Turgay İbrikçib,^c” A comparative study on the effect of feature selection on classification accuracy” 2212-0173 © 2012 Published by Elsevier Ltd. doi: 10.1016/j.protcy.2012.02.068

[23] Yashoda Barve, Jatinderkumar R. Saini “,Detecting and classifying online health misinformation with ‘Content Similarity Measure (CSM)’ algorithm: an automated fact-checking-based approach”, The Journal of Supercomputing, Online ISSN: 1573-0484, 2023

[24] Yashoda Barve, Jatinderkumar R. Saini Kaushika Pal³, Ketan Kotecha” A Novel Evolving Sentimental Bag-of-Words Approach for Feature Extraction to Detect Misinformation”, (IJACSA) International Journal of Advanced Computer Science and Applications, Vol. 13, No. 4, 2022

8. Case Study- Unraveling Adani: Analyzing the Challenges and Lessons from the Hindenburg Saga

The screenshot shows the UGC-CARE List search results page. The search criteria are "0972-0766", resulting in 1 journal. The table below lists the journal details:

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of the Asiatic Society of Mumbai (print only)	The Asiatic Society of Mumbai	0972-0766	NA	from June-2019 to Present	View

Showing 1 to 1 of 1 entries. Navigation: Previous 1 Next

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The screenshot shows the UGC-CARE List journal details page for the journal "Journal of the Asiatic Society of Mumbai (print only)". The details are as follows:

Journal Details	
Journal Title (in English Language)	Journal of the Asiatic Society of Mumbai (print only) (Current Table of Content)
Publication Language	English
Publisher	The Asiatic Society of Mumbai
ISSN	0972-0766
E-ISSN	NA
Discipline	Arts and Humanities
Subject	Arts and Humanities (all)
Focus Subject	General Arts and Humanities
UGC-CARE coverage years	from June-2019 to Present

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Journal- <https://www.asiaticsociety.org.in/journal/>



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**CASE STUDY - UNRAVELING ADANI: ANALYZING THE
CHALLENGES AND LESSONS FROM THE HINDENBURG SAGA**

Authored By

ज्ञान-विज्ञान विमुक्तये

Dr. Ashish Jaswal

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CASE STUDY - UNRAVELING ADANI: ANALYZING THE CHALLENGES AND LESSONS FROM THE HINDENBURG SAGA

Dr. Ashish Jaswal

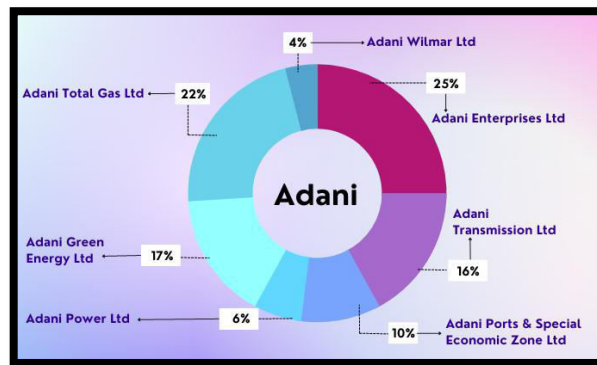
Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Ms. Harshali Bhalerao

Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune

In India, Adani Group is a diversified organization comprising seven publicly traded corporations. It has developed a world-class transport and utility infrastructure portfolio with a pan-India presence. Over the years, Adani Group has positioned itself as the market leader in its transportation, logistics, and energy utility portfolio businesses, with O & M practices benchmarked against global standards—the only Infrastructure Investment Grade issuer in India, with four IG-rated enterprises. Adani Group's headquarters located in Ahmedabad, Gujarat, India.

ADANI GROUP OF COMPANIES



Adani attributes its success and leadership position to its core philosophy of 'Nation Building' driven by 'Development with Goodness' - a sustainable development guiding principle. Adani is committed to expanding its environmental, social, and governance (ESG) footprint by realigning its businesses with a focus on climate protection and broadening its community outreach through a CSR program based on sustainability, diversity, and shared values.

Gautam Adani – Chairman Adani Group basked in an aura of invincibility for a long time. As a billionaire, his assets have seen an exponential rise, perhaps more than any other business tycoon in India could ever think of attaining such a fast fortune. His meteoric rise was seen as a source of pride for India and a sign of the ambition of a new generation of Indian entrepreneurs eager to expand their ventures globally. Some even began to compare Adani to Western magnates such as George Soros.

HINDENBURG RESEARCH

38-year-old Nathan (Nate) Anderson established Hindenburg Research LLC. While based in Jerusalem, he attended classes at the University of Connecticut to hone his skills in international business management. Before returning to the United States, he worked as a consultant for FactSet and then at broker-dealer firms in Washington, DC, and New York. The small team Anderson consisted of five full-time employees and "a handful of contractors."

Before founding Hindenburg, Anderson investigated platinum partners, a hedge fund that was eventually charged \$1 billion in fraud, alongside Harry Markopolos, who uncovered Bernie Madoff's Ponzi scheme.



The Hindenburg exemplifies a man-made, entirely avoidable catastrophe with nearly one hundred individuals aboard a hydrogen-filled balloon, the most combustible element in the universe. The name derives from the 1937 Hindenburg disaster, in which 35 people perished when a German passenger airship caught fire and was destroyed. However, scores of earlier hydrogen-powered aircraft had met similar fates. The administrators of the Hindenburg persisted nonetheless, adopting the oft-repeated Wall Street adage "This time is different."

Nikola is a U.S.-based company that builds electric vehicles and offers various energy services. We were able to expose a wide range of alleged lies and deceptions committed by Nikola in the years leading up to its proposed partnership with General Motors thanks to the help of whistleblowers and former employees. Among the many cases in its "track record" is the September 2020 report "Nikola: How to Parlay an Ocean of Lies into a Partnership with America's Largest Auto OEM."

Hindenburg revealed that WINS Finance had failed to inform US investors of an asset freeze of RMB 350 million was placed on one of its Chinese subsidiaries; Anderson submitted a whistleblower report to the US Securities and Exchange Commission alleging that China Metal Resources Utilization was a "zombie company" with a "100% downside" and "severe financial distress" with "numerous accounting irregularities.". Virtually all of Hindenburg's activity has resulted in legal or administrative action.

HINDENBURG AND ADANI GROUP

On January 24, 2023, Hindenburg researched and released a damning report about the Adani group. According to Hindenburg, the Adani group research report was compiled after a two-year investigation into the Group's finances, transactions, and actions

According to Hindenburg Research, the Indian conglomerate has been accused of perpetrating a stock manipulation and accounting fraud scheme for several decades. Hindenburg has reported that, purportedly, the manipulation of stock prices was executed by utilizing offshore shell companies associated with Adani's family to purchase Adani Group's shares, thereby inflating their prices. The disclosure caused significant market volatility and an unparalleled decline in the Adani Group's stock prices.

THE PRINCIPAL DISCOVERIES OF THE HINDENBURG RESEARCH ANALYSIS

The report's key findings have been succinctly outlined below.

Adani Group companies are overvalued owing to accounting fraud, according to a report published by Hindenburg on January 24. The short seller claims that the fundamental downside for the seven Adani Group listed firms is 85% due to high valuations.

- The research noted that the group companies are heavily leveraged, which should have resulted in a decline in share price but has not. To add to the Group's financial woes, " Several publicly traded Adani companies have borrowed heavily, using stock pledged as collateral.
- 5 of 7 key listed companies have reported 'current ratios' below 1, indicating inability to fulfill their immediate financial obligations.
- The Price to Earnings (P/E) ratio and the Price to Sales ratio of 7 of the Adani Group's companies listed on the Indian stock exchanges indicate an overvaluation of more than 85%.
- Additionally, several of the Adani Group's listed entities exhibit high leverage levels, implying that they have assumed substantial debt concerning their equity and cash reserves.
- Several Adani Group companies, such as Adani Enterprises, Adani Transmission, and Adani Power, exhibited multiple trading patterns that raised suspicion. Specifically, over 33% of the

total delivery volume, which refers to purchased shares, was attributed to offshore entities and stock parking entities deemed questionable.

The Hindenburg Research report elaborates further on the stock manipulation practices and intricate corporate structure established by the Adani Group to facilitate the transfer of funds among its entities, in addition to the aforementioned significant discoveries. After the report, Hindenburg presented a series of 88 inquiries to the Adani Group, seeking elucidation.

Gautam Adani, Founder, and Chairman of the Adani Group, has amassed a net worth of approximately \$120 billion, adding over \$100 billion in the past three years primarily through stock price appreciation in the Group's seven key listed companies, which have increased by an average of 819 percent during that time. Hindenburg referred to the Group's meteoric ascent as "the largest con in corporate history."

The findings of the report on Adani were based on interactions with dozens of individuals, including former senior executives of Adani and also reviewing thousands of documents, and conducting diligence site visits in almost half a dozen countries.

THE REPORT'S EFFECT ON SHARE PRICES OF ADANI GROUP COMPANY SHARES

Following a precipitous decline of 30–80% in the wake of the Hindenburg crisis, shares of the Adani group rose 11–86% following a vote of confidence from GQG partners. While there have been much larger traded volumes in Adani Group equities during this up-and-down phase over the past several weeks, data on shares delivered suggests that buyers may have been more interested in speculation than investment. The table shows selected Shares of the Adani group and its analysis.

Name	Daily avg. traded volume Jan 2 - 23	Delivery (%)	Daily avg. traded volume Jan 24 - Mar 10	Delivery (%)
Adani Enterprises	17,55,021	20	1,76,98,273	17
Adani Port and SEZ	35,76,122	27	2,99,30,088	21
ACC	3,05,872	34	17,39,751	24
Ambuja Cement	35,36,118	36	2,99,93,223	30
Adani Wilmar	14,36,524	43	61,19,478	49
Adani Green Energy	16,91,527	32	36,94,168	62
Adani Power	20,51,143	58	1,64,97,139	62
Adani Transmission	5,28,194	21	14,07,032	64
Adani Total Gas	4,47,609	29	14,83,108	69

A MULTI-FOLD SURGE IN TRADING VOLUMES

The number of shares for which physical delivery was accepted on a given trading day was known as the "deliverable quantity," this figure, together with its percentage of the total number of shares traded, was taken into account. A higher delivery amount as a percentage of total shares traded daily indicates rising market optimism over the stock's near- to medium-term prospects, though this was not always true. If investors bought additional shares to delivered, they likely planned to held onto them for longer than one trading day. Naturally, this was more relevant when the percentage of deliveries rose with a rising trend in shared prices.

The high amount of trading in Adani group shares on stock exchanges shows that investors perceived a massive opportunity for speculation. From January 2, 2023, to January 23, 2023, the average daily volume of Adani Enterprises shares traded on the BSE and the NSE was around 17.5 lakh shares. The daily volume of traded shares surged by a factor of 10 to about 1.77 crores after January 24 (when the Hindenburg report was published). Trading volume in Adani ports and special economic zones on



BSE and NSE had increased eightfold to 3 crore shares per day as of January 24. The trading volume in other companies within the Group had also increased significantly.

LOWER DELIVERY PERCENTAGE

Deliverable quantity for stocks in the derivatives segment like Adani Enterprises, Adani Ports and Special Economic Zone, ACC, and Ambuja is still lower even though the deliverable quantity, in absolute terms, has increased many times since January 24. For instance, Adani Enterprises' average daily deliverable amount from January 2 to January 23 was roughly 3.85 lakh shares, but it has since climbed numerous times to more than 30 lakh shares. The average deliverable quantity, as a share of the total amount transacted, has, however, actually decreased from 20% to 17%. This pattern suggests additional conjecture.

The only companies with a rise in deliverable quantity percentage are those with non-F&O equities that experience circuit breakers activation. These stocks often have a circuit breaker limit set, which may be 5%, 10%, or 20% of the previous close price, and trading in these stocks is suspended the instant the stocks reach the circuit levels on either side (up or down). Adani Green, Adani Power, Adani Wilmar, and Adani Total Gas were all affected by this (see table).

Following the publication of the Hindenburg report, these companies' deliverable quantity as a percentage of overall traded volume had climbed dramatically. Despite the steep drop in these equities and the possibility of some buying, buyers would have been compelled to accept the share delivery due to the circuit breaker regulations in place and the prolonged trading at lowered circuits. Due to a lack of options, this trend shows that many could have entered as traders instead of becoming investors.

ADANI GROUP RESPONSE

Adani quickly released a 413-page statement in response to Hindenburg's investigation. The Adani Group vehemently contested Hindenburg's conclusions and 88 investigations, claiming they were not independent or journalistic. "Myths of Short Seller" was the reply. Adani's presentation says Hindenburg asked 89 questions. The Group's linked party transactions, DRI (Directorate of revenue Intelligence), and legal cases are among these questions. However, 21 questions were released in public records from 2015 onward, so they cannot be claimed to be the outcome of a two-year inquiry or any such allegation. The response reiterated that all entities within the Group have complied with Indian laws and fulfilled all mandatory disclosure requirements mandated by regulatory authorities.

"It is deeply troubling that a company thousands of miles abroad with no credibility or ethics has caused substantial and unprecedented harm to our investors." said the Adani Group, which dismissed the report as "unsubstantiated speculations" and called the allegations "baseless." In a statement, the Group described the research as "not merely an unwarranted attack on any specific company but a calculated attack on India."

SUSPICIOUS TIMING OF THE REPORT

The report's timing, revealed a day before the FPO on January 25, raises major corporate governance concerns. Investors, including the State Bank of India and LIC, have clarified their modest exposure to the Adani Group.

The short-seller applauded Adani Group's dismissal of the Hindenburg report and its threat to sue.

After analyzing the response provided by the Adani Group, Hindenburg Research released a counterargument, claiming that only 26 out of the 88 queries they had presented were adequately addressed, while a number of them were dismissed. Moreover, Hindenburg publicly admitted to holding short positions in various corporations associated with the Adani conglomerate. A diverse array of positions are upheld across a spectrum of financial instruments, which includes derivative

instruments not traded in the Indian market, in addition to bonds traded in the United States. It is worth noting that the regulatory authorities in India lack jurisdiction over said instruments.

Nathan Anderson of Hindenburg Research says he loves exposing fraud. The short seller argued Adani's answer didn't address the report's key findings. Adani has 'stoked a nationalist narrative' that conflates the 'meteoric rise and the fortune of its irman, Gautam Adani, with the prosperity of India itself'. Hindenburg declined to comment on its short holdings with Adani but welcomed the Group to sue over the report.

THE REPORT'S EFFECT ON THE PRIMARY STAKEHOLDERS OF ADANI CORPORATIONS

The report published by Hindenburg Research significantly impacted the Adani Group and several of its primary institutional investors.

The Life Insurance Corporation of India (LIC) is a significant institutional investor in the Adani Group. The publicly-owned insurance corporation was known for allocating the premiums it received towards diverse stock investments. Currently, the aggregate investment of LIC in the Adani Group amounts to approximately 1% of its total Assets Under Management (AUM), valued at \$508 billion. The decline in Adani stocks has significantly depleted LIC's assets by over \$2 billion.



Company	No of shares	%	Investment value (₹ Cr)		
			Jan 24	Jan 27	Change
Adani Total Gas	6,55,88,170	5.96	25,484	19,247	-6,237
Adani Enterprises	4,81,74,654	4.23	16,585	13,307	-3,279
Adani Ports	19,75,26,194	9.14	15,029	11,824	-3,205
Adani Transmission	4,06,76,207	3.65	11,211	8,175	-3,036
Ambuja Cements	12,55,89,263	6.33	6,261	4,787	-1,474
Adani Green Energy	2,03,09,080	1.28	3,886	3,015	-871
ACC	1,20,33,271	6.41	2,811	2,267	-544
Total value			81,268	62,621	-18,647

*Calculations based on shareholding pattern as of December 31, 2022
Data Source: Alca Equity, BSE

Apart from LIC, several public sector banks in India exhibit significant exposure to the Adani Group. As per the findings of CLSA, an investment group headquartered in Hong Kong, a substantial proportion of the Adani Group's overall debt, approximately 30%, is presently held by public sector banks in India, while private lending institutions have a mere 10%. According to estimates, the aggregate monetary value of loans extended by public sector banking institutions to five companies belonging to the Adani Group, namely Adani Enterprises, Adani Power, Adani Ports, Adani Transmission, and Adani Green Energy, surpasses \$9.9 billion. The multiple levels of exposure have caused significant turbulence in the banking sector, prompting the Reserve Bank of India to request that banking institutions furnish information regarding their exposure to Adani entities.

In addition, it deserves emphasis that the MSCI Indian Standard Index, which was designed to monitor the advancement of Indian firms with mid to large market capitalization, was similarly impacted. The Adani group comprises eight distinct entities and their affiliated companies, which collectively hold a weight of 5.75% on the index. MSCI requested feedback and recommendations from diverse market participants regarding the Adani group companies' stocks.

In addition to causing a significant drop in almost all the Adani group companies, the report has also managed to draw the attention of regulatory authorities like the capital markets regulator, the Securities and Exchange Board of India (SEBI) and the banking regulator, the Reserve Bank of India (RBI).



THE CURRENT STATE OF AFFAIRS

The repercussions stemming from the detrimental disclosures outlined in the Hindenburg Research report have unquestionably caused reverberations throughout the entirety of the Indian financial and political framework and have even raised doubts regarding the probity of the nation's regulatory bodies.

Political opposition parties joined forces to request a thorough investigation into the activities of the Adani Group. This investigation was proposed to be conducted by either the Supreme Court or by establishing a Joint Parliament Committee.

To safeguard their interests, most Indian stockbroking firms have increased the broker-level margins necessary for Adani stock trading. Moreover, the Adani Group's corporate entities have experienced an unprecedented and ongoing decrease in stock values, resulting in a substantial increase in exchange-level margins.

An inquiry had been launched by the Securities and Exchange Board of India to examine possible instances of questionable and suspicious transactions involving Adani Group entities. In the upcoming weeks, the scope and characteristics of the research will be unveiled

The report has led to a significant decrease in the performance of almost all Adani group companies. It has also attracted the attention of regulatory authorities such as the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI).

THE ROAD AHEAD FOR ADANI

In a post-Budget interview, Finance Minister Nirmala Sitharaman said she trusted Indian market regulators and pledged good governance.

"India's financial market is well-regulated. Our regulators are strict about corporate governance. Sitharaman told News18 that decades had taught many lessons.

National Stock Exchange placed three Adani Group equities on the ASM on February 2. This system lets stock exchanges monitor short trading. Adani Enterprises, Ambuja Cement, and Adani Port comprise the Group. Gautam Adani called off a fully-subscribed FPO to regain investor trust and stated that the Group's balance sheet is "very healthy with strong cash flows and secure assets" and has an "impeccable track record of servicing their debt."

CONCLUSION

The Adani Hindenburg incident highlights the significance of upholding transparency and accountability in corporate governance. The case study presents several significant inquiries that can provide beneficial insights for enterprises striving to maintain ethical and sustainable principles.

In conclusion, delving into this matter as a reader reveals a wealth of valuable lessons that can be learned.

REFERENCES

1. Gautam Adani's big comeback: How the billionaire is rebuilding Adani Group after the Hindenburg crisis. (n.d.). *BusinessToday*. <https://www.businesstoday.in/interactive/photo-essay/gautam-adani-s-big-comeback-how-the-billionaire-is-rebuilding-adani-group-after-the-hindenburg-crisis-78-05-03-2023>
2. Adani addresses Hindenburg allegations head-on at AGM, says vested interests wrote report to hurt the company Read more at: <https://economictimes.indiatimes.com/news/company/corporate-trends/adani-addresses-hindenburg-allegations-head-on-at-agm-says-vested-interests-wrote-report-to-hurt->



company/articleshow/101845922.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst. (n.d.). Economic Times. Retrieved February 23, 2023, from <https://economictimes.indiatimes.com/news/company/corporate-trends/adani-addresses-hindenburg-allegations-head-on-at-agm-says-vested-interests-wrote-report-to-hurt-company/articleshow/101845922.cms?from=mdr>

3. Back Adani Group AGM 2023: Gautam Adani takes a dig at Hindenburg research report. (n.d.). Livemint.com. Retrieved March 2, 2023, from <https://www.livemint.com/companies/news/adani-group-agm-2023-gautam-adani-takes-a-dig-at-hindenburg-research-report-read-full-text-here-11689658049554.html>

9. Omni Channel Marketing: Transforming Customer Experiences in the Digital Age

The screenshot shows a web browser displaying the UGC-CARE List search results. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/SearchList>. The page title is "UGC-CARE List". A search bar on the right contains the text "0302-9832". Below the search bar, a message states "You searched for '0302-9832'. Total Journals : 1". A table with 7 columns is displayed, containing one entry. The table columns are: Sr.No., Journal Title, Publisher, ISSN, E-ISSN, UGC-CARE coverage years, and Details. The entry details are: Sr.No. 1, Journal Title "Shodhak: A Journal of Historical Research (print only)", Publisher "National Organisation of Historians and Social Scientists", ISSN "0302-9832", E-ISSN "NA", UGC-CARE coverage years "from June-2019 to October-2023", and Details "Discontinued from Oct. 2023". Below the table, it says "Showing 1 to 1 of 1 entries" with "Previous" and "Next" navigation buttons. The footer of the page contains "Copyright © 2024 Savitribai Phule Pune University. All rights reserved. | Disclaimer". The Windows taskbar at the bottom shows the system tray with "ZIM - IND Game score", search bar, and system clock "02:59 PM 08-07-2024".

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Dr.Ashish.R.Jaswal, Prof.Harshali Bhalerao, Assistant Professor, **Dr.Abhijit Kaiwade**, HOD-MCA Sadhu Vaswani Institute of Management Studies for Girls, Pune (arjaswal09@gmail.com) (harshalibhalerao@gmail.com) (kaiwade@gmail.com)

Abstract:

This research paper explores the concept of Omni Channel Marketing and its significance in the modern business landscape. With the rapid growth of digital technologies and changing consumer behavior, companies must adopt a seamless and integrated approach to engage customers across multiple channels. The paper delves into the critical components of Omni Channel Marketing, its benefits, and challenges and provides insights into successful implementation strategies. By examining real-world examples and industry trends, this research paper highlights the transformative power of Omni Channel Marketing in enhancing customer experiences and driving business growth.

Key Words- Omni Channel Marketing, Transformative, Technologies

Introduction

In today's interconnected world, customers expect a seamless and consistent experience when interacting with a brand across various touchpoints. Omni Channel Marketing has emerged as a strategic approach that enables businesses to meet these evolving customer demands. This paper comprehensively analyzes Omni Channel Marketing, discussing its definition, importance, and potential benefits for organizations.

1. Understanding Omni Channel Marketing:

1.1 Definition and Concept

Omni Channel Marketing is a strategic approach that creates a seamless and integrated customer experience across multiple channels and touchpoints. By integrating channels, ensuring consistency, and personalizing interactions, businesses can enhance customer engagement, loyalty, and business success. Omni Channel Marketing is a strategic approach that creates a seamless and integrated customer experience across multiple channels and touchpoints. It is designed to provide customers with a consistent brand message, personalized interactions, and a cohesive journey regardless of the channel they choose to engage with. Omni Channel Marketing recognizes that customers today interact with brands through various channels such as websites, mobile apps, social media platforms, physical stores, call centers, and more. Each channel offers unique engagement opportunities, and customers expect a consistent experience as they move between them.

1.2 Key Components and Channels

the key components and channels commonly involved in an Omni Channel Marketing strategy:

a) Online Channels:

Websites: A brand's website is a central hub for information, product browsing, and online transactions. It should offer a user-friendly interface, responsive design, and consistent branding.

Mobile Apps: With the increasing use of smartphones, mobile apps provide a convenient and personalized channel for customers to engage with a brand, make purchases, and access exclusive offers or content.

Social Media: Platforms like Facebook, Instagram, Twitter, LinkedIn, and others allow businesses to interact with customers, share content, run targeted advertising campaigns, and provide customer support.

b) Offline Channels:

Physical Stores: Brick-and-mortar retail locations provide customers with a tangible experience, face-to-face interactions, and the opportunity to touch and try products physically. Integrating offline and online experiences is crucial in Omni Channel Marketing.

Call Centers: Call centers offer a direct line of communication with customers. They handle inquiries, provide assistance, and help resolve issues. Call centers should be aligned with online channels to ensure consistent information and service.

c) Mobile Messaging:

SMS: Short Message Service (SMS) allows businesses to send targeted messages, notifications, offers, and transactional updates to customers' mobile phones.

Mobile Push Notifications: Push notifications sent through mobile apps enable businesses to deliver personalized messages, reminders, and customer promotions, enhancing engagement and retention.

d) Email Marketing:

Email remains a powerful marketing tool, allowing businesses to send targeted and personalized messages, newsletters, promotions, and transactional emails to customers.

e) In-Store Technology:

Point of Sale (POS) Systems: Integrated POS systems enable seamless transactions, inventory management, and customer data collection across online and offline channels.

Interactive Kiosks: Kiosks placed in physical stores can give customers access to additional product information, personalized recommendations, and the ability to make purchases.

f) Data and Analytics:

Customer Relationship Management (CRM) Systems: CRM systems centralize customer data, allowing businesses to track interactions, preferences, and purchase history and deliver personalized experiences across channels.

Analytics Tools: Data analytics platforms help businesses gather insights on customer behavior, channel performance, and campaign effectiveness, enabling data-driven decision-making and optimization.

g) Cross-Channel Personalization:

Customer Profiles: Comprehensive customer profiles consolidate data from different channels, enabling businesses to deliver personalized experiences, recommendations, and targeted messaging.

Cross-Channel Tracking: Tracking customer interactions across channels provides insights into customer journeys and preferences and allows for contextually relevant interactions.

1.3 Differentiating Omni Channel Marketing from Multichannel Marketing

Omni Channel Marketing delivers a seamless and integrated customer experience across channels, prioritizing consistency, personalization, and integration. It takes a customer-centric approach and aims to create a cohesive brand experience. In contrast, Multichannel Marketing involves utilizing multiple channels independently, often focusing less on integration and delivering a consistent experience. The channels in Multichannel Marketing are treated separately, focusing on expanding reach rather than creating a unified customer experience.

2. Benefits of Omni Channel Marketing:

Omni Channel Marketing provides businesses with a seamless and consistent customer experience across multiple channels, increasing customer engagement, customer loyalty and retention, and conversion rates and revenue. It enables companies to build deeper relationships with customers and guide them through their journey, from initial awareness to final purchase. Omni Channel Marketing helps businesses reduce barriers to conversion and increase sales by providing consistent messaging, personalized recommendations, and seamless transitions between channels. Data-driven insights and personalization can personalize marketing messages, tailor product recommendations, and deliver targeted offers. A strong Omni Channel presence enhances the brand perception and positions the business as customer-focused and innovative.

3. Challenges in Implementing Omni Channel Marketing

Implementing Omni Channel Marketing can present various business challenges, such as siloed organizational structure, technological integration and data management, consistency in messaging and branding, resource allocation and investment, and time. To ensure a successful implementation

businesses must be aware of and address these challenges to ensure a successful implementation. These challenges include siloed organizational structure, technological integration, data management, consistency in messaging and branding, resource allocation and investment, and time. To overcome these challenges, companies must break down silos and foster collaboration among departments to align strategies and goals, invest in robust technology infrastructure and data management systems, and maintain consistent messaging and branding across multiple channels. Businesses must allocate resources appropriately to develop and execute Omni Channel strategies effectively.

This can involve training staff, investing in technology infrastructure, and reallocating budgets to prioritize initiatives. **Customer Data Privacy and Security:** Businesses must ensure compliance and build trust by protecting customer data. **Omnichannel Customer Service:** Businesses need to provide customer service teams that are well-trained, equipped with the necessary tools, and capable of delivering a unified customer experience across channels. **Change Management and Organizational Alignment:** Implementing Omni Channel Marketing requires a cultural shift within the organization, so leadership support, effective communication, and training programs can help overcome resistance to change and foster alignment. By acknowledging and proactively tackling these challenges, businesses can successfully implement Omni Channel Marketing and unlock its benefits in delivering exceptional customer experiences.

4. Successful Strategies for Omni Channel Marketing

Omni Channel Marketing requires careful planning and execution. Key strategies include developing a customer-centric approach, creating consistent branding and messaging across all channels, integrating channels and data, optimizing the mobile experience, and leveraging data analytics to gain insights into customer behavior, channel performance, and campaign effectiveness.

- a) **Develop a Customer-Centric Approach:** Placing the customer at the center of Omni Channel strategy and understanding their preferences, behaviors, and needs across different channels.
- b) **Establish Consistent Branding and Messaging:** Maintaining a consistent branding and messaging across all channels to create a cohesive brand experience.
- c) **Integrate Channels and Data:** Connect online and offline channels to provide a seamless customer journey.
- d) **Optimize the Mobile Experience:** Ensure websites and mobile apps are responsive, user-friendly, and provide a seamless transition between devices.
- e) **Leverage Data Analytics:** Analyze customer journey data to identify pain points, opportunities for improvement, and areas for optimization. Provide
- f) **Cross-Channel Personalization:** Leverage customer data and insights to deliver personalized experiences across channels.
- g) **Seamless Customer Service:** Deliver exceptional customer service across all channels.
- h) **Embrace Emerging Technologies:** Explore using AR, VR, IoT, and voice-activated devices to create immersive and engaging experiences.
- i) **Measure and Monitor Performance:** Define relevant metrics and key performance indicators (KPIs) to measure the effectiveness of Omni Channel Marketing efforts.

By implementing these strategies, businesses can create a seamless and integrated Omni Channel experience that enhances customer engagement and loyalty and ultimately drives business growth.

Case Study of Amazon

Amazon has emerged as a global leader in setting the gold standard for Omni Channel excellence. The company has successfully implemented and integrated various channels to deliver a seamless and personalized customer experience. Here are key factors that contribute to Amazon's Omni Channel success:

1. **Customer-Centric Approach:** Amazon places utmost importance on understanding and meeting customer needs. The company leverages customer data to gain insights into preferences, behavior, and purchase history. With a deep understanding of individual customers, Amazon delivers

- personalized recommendations, tailored promotions, and relevant content across channels. This customer-centric approach fosters loyalty and drives engagement.
2. **Technological Innovation:** Amazon is at the forefront of technological innovation in Omni Channel Marketing. The company seamlessly integrates its online platform, mobile app, voice assistants like Alexa, and even physical stores (such as Amazon Go and Amazon Books). Customers can easily transition between channels, pick up where they left off, and enjoy a consistent experience. Amazon's advanced technology infrastructure ensures efficient inventory management, order fulfillment, and delivery, enhancing the Omni Channel experience.
 3. **Data-Driven Insights:** Amazon harnesses the power of data analytics to drive decision-making. The company gains valuable insights by analyzing customer behavior, browsing patterns, purchase history, and feedback. This data-driven approach enables Amazon to continually optimize its Omni Channel strategies, refine customer experiences, and deliver targeted marketing campaigns. Real-time analytics also contribute to efficient inventory management, personalized recommendations, and dynamic pricing.
 4. **Channel Integration:** Amazon seamlessly integrates its channels, ensuring a unified and consistent brand experience. Customers can access their accounts, view browsing history, and manage orders across multiple devices and platforms. The company maintains consistent branding, messaging, and user interfaces throughout its website, mobile app, and physical stores. Integration extends to logistics and fulfillment, enabling customers to choose from various delivery options, including same-day or next-day delivery.
 5. **Prime Membership and Loyalty Programs:** Amazon's Prime membership program is a cornerstone of its Omni Channel strategy. Prime offers benefits such as free and fast shipping, access to exclusive deals, streaming services, and more. By integrating Prime across channels, customers enjoy consistent benefits and seamless experiences. Amazon also utilizes loyalty programs and incentives to reward customer engagement, driving repeat purchases and fostering long-term loyalty.
 6. **Customer Service Excellence:** Amazon prioritizes delivering exceptional customer service across all channels. The company offers multiple avenues for customer support, including live chat, email, phone, and self-service options. Integration of customer service systems ensures that customers receive consistent and timely assistance regardless of their chosen channel. Amazon's commitment to promptly resolving customer issues enhances the Omni Channel experience.

In conclusion, Amazon sets the gold standard for Omni Channel excellence through its customer-centric approach, technological innovation, data-driven insights, channel integration, Prime membership program, and outstanding customer service. By seamlessly integrating channels and delivering personalized experiences, Amazon has revolutionized Omni Channel Marketing, setting a benchmark for other businesses to aspire to

Future Trends and Implications for omni channel marketing

Omni Channel Marketing is constantly evolving to meet customers' changing needs and preferences. As we look to the future, several key trends and implications emerge that will shape the landscape of Omni Channel Marketing: the rise of voice commerce, the integration of Artificial Intelligence (AI), personalization at scale, seamless integration of online and offline experiences, and a mobile-first approach. Voice commerce is expected to proliferate, with customers using voice commands to purchase, search for products, and interact with brands. AI technologies, such as machine learning and natural language processing, will play a significant role in Omni Channel Marketing. Personalization at scale will continue to be a crucial aspect of Omni Channel Marketing, enabling businesses to deliver highly targeted and contextually relevant experiences at scale.

Seamless integration of online and offline experiences will continue to blur as businesses seek to provide a seamless experience to customers. Mobile payment options, location-based targeting, and mobile apps will continue to shape the Omni Channel landscape. The future of Omni Channel Marketing will be characterized by integrating emerging technologies, personalization at scale, seamless online-offline experiences, mobile optimization, social commerce, data privacy and trust, and

a focus on sustainability. This will require businesses to integrate social commerce capabilities, leverage influencer marketing, and facilitate seamless transitions from social media to other channels. Data privacy and trust must be prioritized, and businesses must obtain proper consent and ensure safe data handling practices. Sustainability and social responsibility must be integrated across channels to build trust and loyalty. Adapting to these trends and embracing new technologies will be critical for businesses to stay competitive and deliver exceptional Omni Channel experiences to their customers.

Conclusion:

Omni Channel Marketing has become imperative for organizations seeking to thrive in today's dynamic business environment. By providing a holistic view of customers and seamlessly integrating multiple channels, businesses can deliver exceptional experiences and gain a competitive edge. This research paper highlights the critical aspects of Omni Channel Marketing, examines its benefits and challenges, and provides valuable insights for successful implementation. Embracing Omni Channel Marketing is no longer an option but a necessity for businesses looking to engage, retain, and delight their customers in the digital age.

References:

1. Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to Omni Channel retailing: Introduction to the special issue on multi-channel retailing. *Journal of Retailing*, 91(2), 174-181.
2. Rigby, D. K. (2011). The future of shopping. *Harvard Business Review*, 89(12), 65-76.
3. Gupta, S., & Lehmann, D. R. (2006). *Managing customers as investments: The strategic value of customers in the long run*. Upper Saddle River, NJ: Pearson Prentice Hall.
4. B. Bhamangol, A. Kaiwade, B. Pant, A. Rana, A. Kaiwade and A. Shaikh, "An Artificial Intelligence based Design and Implementation for classifying the Missing Data in IoT Applications," 2022 5th International Conference on Contemporary Computing and Informatics (IC3I), Uttar Pradesh, India, 2022, pp. 1376-1382, doi: 10.1109/IC3I56241.2022.10072634.
5. Lacobucci, D. (2013). *Marketing management* (10th ed.). Boston, MA: Cengage Learning.
6. Levy, M., & Weitz, B. A. (2012). *Retailing management* (8th ed.). New York, NY: McGraw-Hill.
7. Nasir, S., & Yousafzai, S. Y. (2014). Consumer attitude and purchase intention towards Omni-Channel retailing: A study of Pakistani consumers. *Journal of Retailing and Consumer Services*, 21(5), 889-896.
8. Verhoef, P. C., Neslin, S. A., & Vroomen, B. (2007). Multichannel customer management: Understanding the research-shopper phenomenon. *International Journal of Research in Marketing*, 24(2), 129-148.
9. Jain, S. (2019). Designing an integrated Omni Channel marketing strategy. *Journal of Strategic Marketing*, 27(1), 1-17.
10. Reinecke, S., & Yim, C. K. (2017). Omni-channel retailing: The state of research and future directions. *Journal of Retailing*, 93(1), 1-13.

10. The Case of Drug Pricing Reforms

The screenshot shows the UGC-CARE List search results page. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/SearchList>. The page title is "UGC-CARE List". A search bar contains the text "0972-0766". Below the search bar, a table lists the search results. The table has columns for Sr.No., Journal Title, Publisher, ISSN, E-ISSN, UGC-CARE coverage years, and Details. The first entry is "Journal of the Asiatic Society of Mumbai (print only)" published by "The Asiatic Society of Mumbai" with ISSN "0972-0766" and UGC-CARE coverage years "from June-2019 to Present". A "View" button is next to the entry. Below the table, it says "Showing 1 to 1 of 1 entries" with "Previous" and "Next" navigation buttons. The footer of the page contains "Copyright © 2024 Savitribai Phule Pune University. All rights reserved. | Disclaimer".

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of the Asiatic Society of Mumbai (print only)	The Asiatic Society of Mumbai	0972-0766	NA	from June-2019 to Present	View

The screenshot shows the UGC-CARE List journal details page. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?journalId=101001911&flag=Search>. The page title is "UGC-CARE List". The "Journal Details" section contains the following information:

Journal Details	
Journal Title (in English Language)	Journal of the Asiatic Society of Mumbai (print only) (Current Table of Content)
Publication Language	English
Publisher	The Asiatic Society of Mumbai
ISSN	0972-0766
E-ISSN	NA
Discipline	Arts and Humanities
Subject	Arts and Humanities (all)
Focus Subject	General Arts and Humanities
UGC-CARE coverage years	from June-2019 to Present

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Journal- <https://www.asiaticsociety.org.in/journal/>



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THE CASE OF DRUG PRICING REFORMS

Authored By

ज्ञान-विज्ञान विमुक्तये

Dr. Ashish Jaswal

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Editor in chief

THE CASE OF DRUG PRICING REFORMS

Ms Harshali Bhalerao

Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Dr. Ashish Jaswal

Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Michael was worried. He just couldn't sleep that night. The next day he was going to do something which was quite common in IT industry but rare in a Pharma industry/ Biotech industry.

Michael is the CEO of Neopharma, a US based pioneering in manufacture of COVID 19 vaccine.

Michael called an urgent meeting of all the senior level managers.

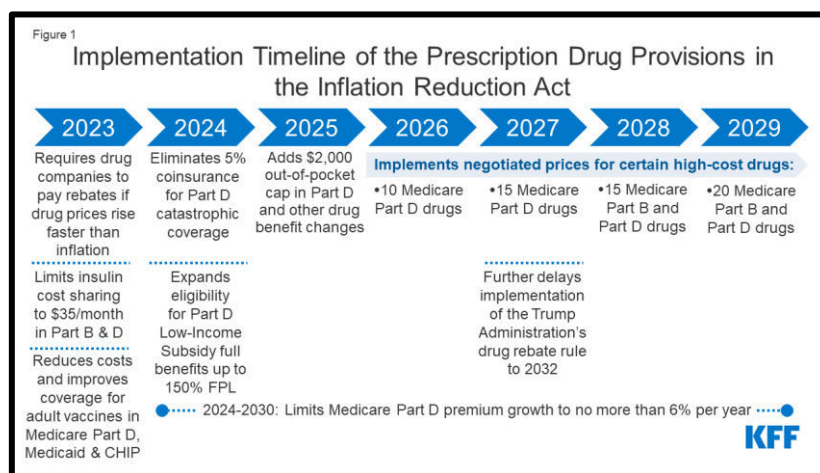
Michael said "John (HR Head of NeoPharma) We need to terminate 400 people from our organization as soon as possible."

John was perplexed "Michael this is ridiculous. Our production of vaccines has doubled since last year. We have limited human resources. Terminating 400 people will add to the burden. Production will be affected.

Sara spoke "Michael I am trying to understand why this sudden move" Is it due to the Inflation Reduction Act?"

Inflation Reduction Act-

On August 16, 2022, President Biden signed into law the Inflation Reduction Act of 2022, which includes a broad package of health, tax, and climate change provisions. The law includes several provisions to lower prescription drug costs for people with Medicare and reduce drug spending by the federal government. These provisions will take effect beginning in 2023 (Figure 1). This brief examines the potential impact of these provisions for Medicare beneficiaries nationally and by state.



The Inflation Reduction Act includes two policies that are designed to have a direct impact on drug prices:

- **Requires the federal government to negotiate prices for some high-cost drugs covered under Medicare.** Medicare Part D and Part B drug spending is highly concentrated among a relatively small share of covered drugs, mainly those without generic or biosimilar competitors. Under the Inflation Reduction Act, brand-name, and biologic drugs without

generic or biosimilar equivalents covered under Medicare Part D (retail prescription drugs) or Part B (administered by physicians) that are among the highest-spending Medicare-covered drugs and are nine or more years (small-molecule drugs) or 13 or more years (biologicals) from FDA approval are eligible for negotiation. The number of negotiated drugs is limited to 10 Part D drugs in 2026, another 15 Part D drugs in 2027, another 15 Part B and Part D drugs in 2028, and another 20 Part B and Part D drugs in 2029 and later years.

- The number of Medicare beneficiaries who will see lower out-of-pocket drug costs in any given year under this provision, and the magnitude of savings, will depend on which drugs are subject to negotiation, the number of Medicare beneficiaries who use those drugs, and the price reductions achieved through the negotiation process relative to prices that would have been applied in the absence of the new law.
- **Requires drug manufacturers to pay rebates to Medicare if they increase prices faster than inflation for drugs used by Medicare beneficiaries.** From 2019 to 2020, half of all drugs covered by Medicare had price increases above the rate of inflation over that period (which was 1%, prior to the recent surge in the annual inflation rate), and among those drugs with price increases above the rate of inflation, one-third had price increases of 7.5% or more, the annual inflation rate in early 2022. The inflation rebate provision will be implemented in 2023, using 2021 as the base year for determining price changes relative to inflation. (The legislation originally included drug use by people with private insurance in the calculation of the rebate, but that language was dropped based on a ruling by the Senate parliamentarian that it did not comply with budget reconciliation rules.)
- The number of Medicare beneficiaries who will see lower out-of-pocket drug costs in any given year and the amount of out-of-pocket savings under this provision will depend on how many beneficiaries use drugs whose prices increase more slowly than would otherwise occur and the magnitude of price reductions relative to baseline prices. For Part B drugs with price increases greater than inflation, beneficiary coinsurance will be based on 20% of the drug's lower inflation-adjusted price. This provision could have spillover effects on people with private insurance if it results in slower price growth for drugs covered by private insurance.

The Inflation Reduction Act includes several provisions that will reduce out-of-pocket spending for Medicare beneficiaries:

- **Caps Medicare beneficiaries' out-of-pocket spending under the Medicare Part D benefit, first by eliminating coinsurance above the catastrophic threshold in 2024 and then by adding a \$2,000 cap on spending in 2025.** The law also limits annual increases in Part D premiums for 2024 to 2030 and makes other changes to the Part D benefit design. Under current law, the catastrophic threshold is based on the amount beneficiaries themselves pay out-of-pocket plus the value of the manufacturer discount on the price of brand-name drugs in the coverage gap phase. In 2022, the catastrophic threshold is set at \$7,050, and beneficiaries pay about \$3,000 out of pocket for brand-name drugs before reaching the catastrophic coverage phase, where they pay 5% coinsurance on their drugs until the end of the year. Based on current estimates, beneficiary out-of-pocket spending at the catastrophic coverage threshold is estimated to increase from \$3,000 in 2022 to roughly \$3,100 in 2023 and \$3,250 in 2024.
- **In 2020, 1.4 million Medicare Part D enrollees without low-income subsidies had annual out-of-pocket drug spending of \$2,000 or more, including 1.3 million enrollees who had spending above the catastrophic coverage threshold (which equaled roughly \$2,700 in out-of-pocket costs that year for brand-name drugs alone).** Among these 1.4 million enrollees, most (1.0 million or 69%) spent between \$2,000 and \$3,000 out of pocket, while



roughly 0.3 million (19%) had spending of \$3,000 up to \$5,000, and 0.2 million (11%) spent \$5,000 or more out of pocket.

- These estimates of how many beneficiaries will be helped by capping out-of-pocket drug spending under Medicare Part D starting in 2024 are conservative because they do not account for expected increases in annual out-of-pocket drug spending between 2020 and 2024/2025, the increase in the number of beneficiaries on Medicare, or higher utilization and spending associated with the increased affordability of prescription drugs due to this benefit improvement.
- Capping out-of-pocket drug spending under Medicare Part D will be especially helpful for beneficiaries who take high-priced drugs for conditions such as cancer or multiple sclerosis. For example, in 2020, among Part D enrollees without low-income subsidies, average annual out-of-pocket spending for the cancer drug Revlimid was \$6,200 (used by 33,000 beneficiaries); \$5,700 for the cancer drug Imbruvica (used by 21,000 beneficiaries); and \$4,100 for the MS drug Avonex (used by 2,000 beneficiaries).
- **Limits cost sharing for insulin to \$35 per month for people with Medicare, beginning in 2023**, including covered insulin products in Medicare Part D plans, beginning January 1, 2023, and for insulin furnished through durable medical equipment under Medicare Part B, beginning July 1, 2023. (A provision to limit monthly insulin copays for people with private insurance did not receive the 60 votes needed to remain in the bill after being ruled out of compliance with reconciliation rules by the parliamentarian and was removed from the legislation prior to passage.)
- **3.3 million Medicare Part D enrollees used an insulin product in 2020 (the most recent data available), including 1.7 million enrollees without low-income subsidies who spent \$54 on average per insulin prescription that year.** The number of Medicare beneficiaries who will pay less out of pocket for insulin beginning in 2023 will depend in part on whether they are currently enrolled in a Part D plan that is participating in an Innovation Center model in which participating plans cover selected insulin products at a monthly copayment of \$35.
- **Eliminates cost sharing for adult vaccines covered under Medicare Part D, as of 2023, and improves access to adult vaccines under Medicaid and CHIP.**
- **4.1 million Medicare beneficiaries received a vaccine covered under Part D in 2020, including 3.6 million who received the vaccine to prevent shingles.**
- The Medicaid and CHIP provision improves vaccine coverage for Medicaid-enrolled adults because vaccine coverage is optional and varies by state. According to a recent survey, half of states (25) did not cover all vaccines recommended by the Advisory Committee on Immunization Practices (ACIP) in 2018–2019, and 15 of 44 states responding to the survey imposed cost sharing requirements on adult vaccines.
- **Expands eligibility for full Part D Low-Income Subsidies (LIS) in 2024** to low-income beneficiaries with incomes up to 150% of poverty and modest assets and repeals the partial LIS benefit currently in place for individuals with incomes between 135% and 150% of poverty. Beneficiaries receiving partial LIS benefits typically pay some portion of the Part D premium and standard deductible, 15% coinsurance, and modest copayments for drugs above the catastrophic threshold, while those receiving full LIS benefits pay no Part D premium or deductible and only modest copayments for prescription drugs until they reach the catastrophic threshold, when they face no cost sharing.

- **0.4 million Medicare beneficiaries received partial LIS benefits in 2020.** Annual out-of-pocket costs for these beneficiaries could fall by close to \$300, on average, under the new law, based on the difference between average out-of-pocket drug costs for LIS enrollees receiving full benefits versus partial benefits in 2020.
- This provision will benefit low-income Black and Hispanic Medicare beneficiaries, who are more likely than white beneficiaries to have incomes between 135% and 150% of poverty.

The Inflation Reduction Act also includes a provision to further delay implementation of the Trump Administration’s drug rebate rule until 2032, rather than take effect in 2027. The rebate rule would eliminate the anti-kickback safe harbor protections for prescription drug rebates negotiated between drug manufacturers and pharmacy benefit managers (PBMs) or health plan sponsors in Medicare Part D. This rule was estimated to increase Medicare spending and premiums paid by beneficiaries.

(Ref: <https://www.kff.org/medicare/issue-brief/how-will-the-prescription-drug-provisions-in-the-inflation-reduction-act-affect-medicare-beneficiaries/>)

Michael to Sara – “Yes it would now be a problem to sustain in the highly capital -intensive industry. The consequences of this reform would be far reaching. The only option that we have right now is cutting costs. And the only way is terminating employees.

Sara questioned: Is there no other way?

Michael gave her a document which had information about US Business Environment

US ECONOMY

The U.S. economy is in a strange place right now. Job growth is slowing, but demand for workers is strong. Inflation is high (but not as high as last spring). Consumers are spending more in some areas but cutting back in others. Job openings are high but falling, while layoffs are low.

How conditions are faring for jobs, income, consumers, and production:





By one common definition, the United States is already in a recession, because gross domestic product has declined for two consecutive quarters.

Shifting Demography in US

According to Pew Research Just as it has changed throughout history, the identity of the United States continues to evolve. The next chapter of the American narrative is being written by an increasingly diverse population. The excerpts below, taken from a Pew Research Center article on top demographic trends currently shaping the United States and the world, explore some of the population shifts that will affect this narrative.

Americans are more racially and ethnically diverse than in the past, and the U.S. is projected to be even more diverse in the coming decades. By 2055, the U.S. will not have a single racial or ethnic majority. Much of this change has been (and will be) driven by immigration. Nearly 59 million immigrants have arrived in the U.S. in the past 50 years, mostly from Latin America and Asia. Today, a near-record 14% of the country's population is foreign born compared with just 5% in 1965. Over the next five decades, the majority of U.S. population growth is projected to be linked to new Asian and Hispanic immigration . . .

Asia has replaced Latin America (including Mexico) as the biggest source of new immigrants to the U.S. In a reversal of one of the largest mass migrations in modern history, net migration flows from Mexico to the U.S. turned negative between 2009 and 2014, as more Mexicans went home than arrived in the U.S. . . . Meanwhile, Asians are now the only major racial or ethnic group whose numbers are rising mainly because of immigration. And while African immigrants make up a small share of the U.S. immigrant population, their numbers are also growing steadily—roughly doubling every decade since 1970.

America's demographic changes are shifting the electorate—and American politics. The 2016 electorate [was] the most diverse in U.S. history due to strong growth among Hispanic eligible voters, particularly U.S.-born youth. There are also wide gaps opening up between the generations on many social and political issues. Young adult Millennials are much more likely than their elders to hold liberal views on many political and social issues, though they are also less likely to identify with either political party: 50% call themselves political independents.

Millennials, young adults born after 1980, are the new generation to watch. They have likely surpassed Baby Boomers (born 1946–1964) as the largest U.S. generation and differ significantly from their elders in many ways. They are the most racially diverse generation in American history: 43% of Millennial adults are non-white, the highest share of any generation. And while they are on track to be the most educated generation to date, this achievement has come at a cost: Many Millennials are struggling with student debt. In addition to the weak labor market of recent years, student debt is perhaps one reason why many are still living at home. Despite these troubles, Millennials are the most upbeat about their financial future: More than eight-in-ten say they either currently have enough money to lead the lives they want or expect to in the future.

Women's role in the labor force and leadership positions has grown dramatically The labor force participation rate for American women has risen steadily since the 1960s. In fact, mothers were the sole or primary breadwinner in a record 40% of all households with children in 2011. The gender pay gap has narrowed over this period of time, especially for young women just entering the labor force, but it still persists. As more women have entered the workforce, the share of women in top leadership jobs has risen, but they still make up a small share of the nation's political and business leaders relative to men. . . .

The American family is changing. After decades of declining marriage rates, the share of American adults who have never been married is at an historic high. Two-parent households are on the decline in



the U.S., while divorce, remarriage and cohabitation are on the rise. About one-in-six American kids now live in a blended family. And the roles of mothers and fathers are converging, due in part to the rise of breadwinner moms. Dads are doing more housework and child care, while moms are doing more paid work outside the home. . . .

The share of Americans who live in middle class households is shrinking. The share of U.S. adults living in middle-income households fell to 50% in 2015, after more than four decades in which those households served as the nation's economic majority. And the financial gaps between middle- and upper-income Americans have widened, with upper-income households holding 49% of U.S. aggregate household income (up from 29% in 1970) and seven times as much wealth as middle-income households (up from three times as much in 1983).

Christians are declining as a share of the U.S. population, and the number of U.S. adults who do not identify with any organized religion has grown. While the U.S. remains home to more Christians than any other country, the percentage of Americans identifying as Christian dropped from 78% in 2007 to 71% in 2014. By contrast, the religiously unaffiliated have surged seven percentage points in that time span to make up 23% of U.S. adults last year. This trend has been driven in large part by Millennials, 35% of whom are religious "nones." The rise of the "nones" is not a story unique to the U.S.: The unaffiliated are now the second-largest religious group in 48% of the world's nations.

After reading the above information even Sara was confused about the decision to terminate employees.

REFLECT ON THE CASE

1. Explain Pestle Analysis.
2. Explain the impact of political environment on business with the above example.
3. What would be the opportunities and challenges of the new Inflation Reduction reforms?
4. Is Michael taking a prudent decision to terminate 400 employees?

REFERENCES

1. What the inflation reduction act has achieved in its first year. (2023, August 17). The Economist
2. What the inflation reduction act does and doesn't do about rising prices. (2022, August 11). NPR.org.
3. The inflation reduction act: Here's what's in it. (2022, October 24). McKinsey & Company.
4. Dennis, Brady (August 14, 2022). "As Congress funds high-tech climate solutions, it also bets on a low-tech one: Nature". The Washington Post.
5. Kaufman, Anna (September 23, 2022). "What is the Inflation Reduction Act 2022? Answering your common questions about the bill". USA Today

11. Comparative Study on the Openness Indicators of India and USA: the Pre-Pandemic ERA

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Journal Details

Journal Title (in English Language)	Journal of Management and Entrepreneurship
Publication Language	English
Publisher	Xavier Institute of Management and Entrepreneurship
ISSN	2229-5348
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JOURNAL OF MANAGEMENT AND ENTREPRENEURSHIP

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COMPARATIVE STUDY ON THE OPENNESS INDICATORS OF INDIA AND USA: THE
PRE- PANDEMIC ERA

Dr. Divya Yogesh Lakhani

Associate Professor & HOD – MBA, Sadhu Vaswani Institute of Management Studies for Girls

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UGC CARE Group 1 Journal



**COMPARATIVE STUDY ON THE OPENNESS INDICATORS OF INDIA AND USA: THE
PRE- PANDEMIC ERA**

Ms. Malvika Lakhani, Student, MA-Economics, Gokhale Institute of Politics and Economics Ms. Kirti,
Student, Student, MA-Economics, Gokhale Institute of Politics and Economics

Dr. Divya Yogesh Lakhani, Associate Professor & HOD – MBA, Sadhu Vaswani Institute of
Management Studies for Girls

Abstract

Openness of an economy is one of the most crucial parameters reflecting a country's position in the global economy. The paper uses four prominent measures of economic openness which include Trade Openness Index, Foreign Direct Investment, Trade Restrictions imposed and the number of treaties signed by the country to reflect upon how open the economy is. Using the data collected on these indicators, analysis of trends in openness for the pre pandemic era have been discussed for two major economies, India and the USA. Overall, the analysis suggested that India and USA have demonstrated varying levels of openness during the period from 2016 to 2020. India, on one hand has remained consistently a higher trade open economy than USA, but comparison based on the Foreign Direct Investment shows that it has improved over the years and has been able to cross the level of FDI in the US. A discussion on what are the steps taken by the two economies in improving their openness indicators has been done. Finally, the factors and the resulting measures taken by the countries regarding why a partially open economy is preferred to a fully open economy, have been talked about, which are a result of trade tensions among the countries, protectionist measures for the domestic producers and consumers and domestic economic priorities.

Key Words:Trade Openness, Foreign Direct Investment, Open Economy, Tariff and Non-Tariff Barriers, Covid-19 Pandemic

Introduction

When discussing the factors fundamental to growth in an economy, the degree of openness of any economy is an important determinant. Traditionally, mode of integration among the nations had been trade in goods and services but over the years the world has come a long way, with countries opening up their economies not only for trading goods and services but also for capital and financial flows. Today the world is like a system whose components - the nations are interlinked with each other only due to increasing openness in trade of goods, services, financial markets and labor migrations to some extent.

Open economies, unlike closed ones, tend to grow faster, promote innovation by bringing technological upgradation, improving productivity, providing higher income and more opportunities to people. They also benefit lower-income households, offering consumers not only more affordable, but also a variety of goods and services. Integrating with the world economy through trade and global value chains drives economic growth and reduces poverty both locally and globally.

The research paper discusses aspects of the openness of two economies of the world. One is India, an emerging market economy, and the other is the United States Of America, an advanced economy. India's structural transformation over years has moved it towards higher value added production, with benefits accruing to openness. The USA, on the other hand, is a large and diverse economy but its position in the openness indicators is far below that of India, with a more protected economy.

Literature Review

A considerable amount of literature has been published on how opening up the economy can benefit the people of the country. The view is supported by (Puri & Kumar, 2021), who argue that international trade helps in creating competitiveness allowing domestic business units to learn and to become effective being exposed to international competition. It talks about the role of an open economy in bringing down the

poverty level. India had a closed economy in the 1960s as well as the 70s. There wasn't actually a 1% decline in the poverty level, but with internationalization the whole situation got transformed.

Pradhan(2010) in his study focussed on the question that has openness impacted India's growth rate, and if it has, then in what direction?". He discussed changing trade policy regimes of India; trade performance in the global context during the liberalisation period and changing trade patterns. He found in the study that movements in the exports of goods and services appear to affect GDP in the case of the Indian economy. It is consistent with the expectation that increasing exports, both in terms of merchandise and services, can stimulate economic growth.

While an open economy has its benefits, countries do tend to follow protectionism and more restricted trade policies in the form of trade barriers and tariffs. The United States in recent years, has been one such country, which has not engaged in globalising its network if compared to developing countries like India. (Popa, 2019) mentions how the US President Donald Trump during his regime had emphasised on turning from free and open trade toward so called fair trade based on "America first" policy, who feared that unemployment will rise as companies decide to outsource production to developing countries.

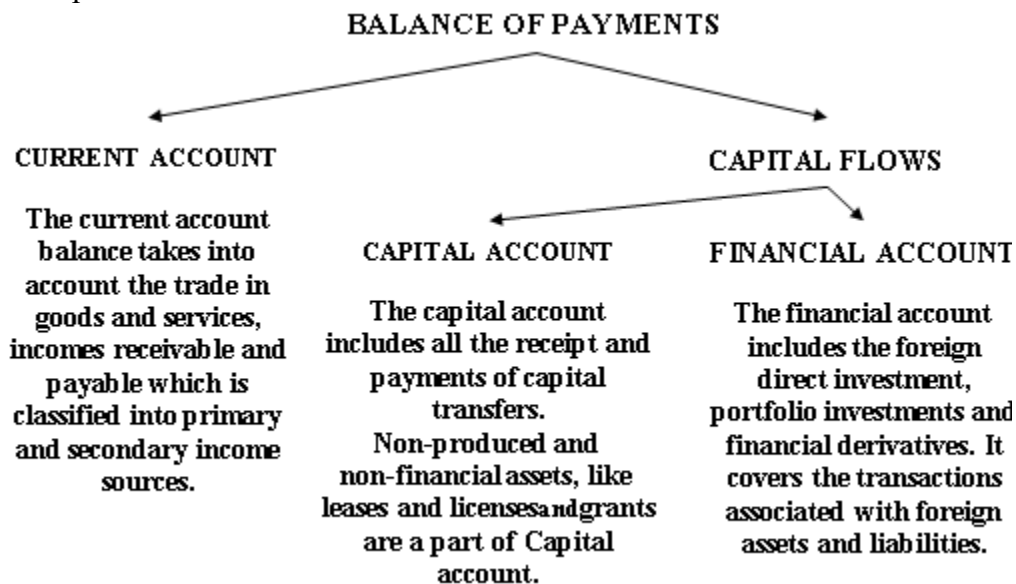
The research to date has tended to focus on how the liberal foreign policy in trade of goods and services, foreign investments have played a crucial role in the economic growth of nations, and also discuss the harm it can cause if not checked regularly. However, there has been relatively little literature published, comparing how the open economy works differently in different setups, i.e. how an open economy works in an advanced economy like the US and how in the developing countries like India.

One of the few literature comparing the US and the Indian foreign policy in terms of openness has been by Jaiswal (2020) where he discusses the foreign inflows in USA and India and the trend they follow. Comparative analysis on the ground of top investing countries, top sectors attracting capital inflow, FDI flows and stocks in India and USA and FDI restrictiveness have been done. The literature tells how in a developing country like India, the main sector responsible for higher inflow of equity has been the services, while an advanced economy like the US has been able to get about half of its equity flow from the Manufacturing sector. The research also says that the US economy has lesser restrictions compared to India but at the same time the political wave in both the countries is pushing them away from this stance. Apart from this, a comparison between the two economies can also be done by understanding how the bilateral trade between India and US has benefited each. Iqbal et.al.(2017) did an empirical analysis of the impact of US-India bilateral ties on economic growth. With the help of regression models he measured the impact of export, import and exchange rate (independent variables) on Indian and US GDP (dependent variables). The first model implied a significant impact of Export to US and Import from US on Indian GDP. The second model revealed Export to India and foreign exchange rate impacts US GDP significantly. While import from India forms an insignificant part of US GDP maybe because these imports comprises miniscule percentage of total imports undertaken. The study concluded saying that economic growth is directly affected by bilateral trade.

The decision on whether to open the economy or not is not an easy decision as it might seem to many. One question that needs to be asked, however, is how an open economy is viewed differently by the policy makers while deciding on policies in an emerging economy like India and an advanced economy like the US, which is the discussion of this entire paper.

Open Economy and the Balance of Payments

In an open economy, international transactions are recorded in the Balance of Payments taking place between the resident of the country and non resident both in trade and finance . It consists of the current, capital and the financial account, discussed in the tree below.

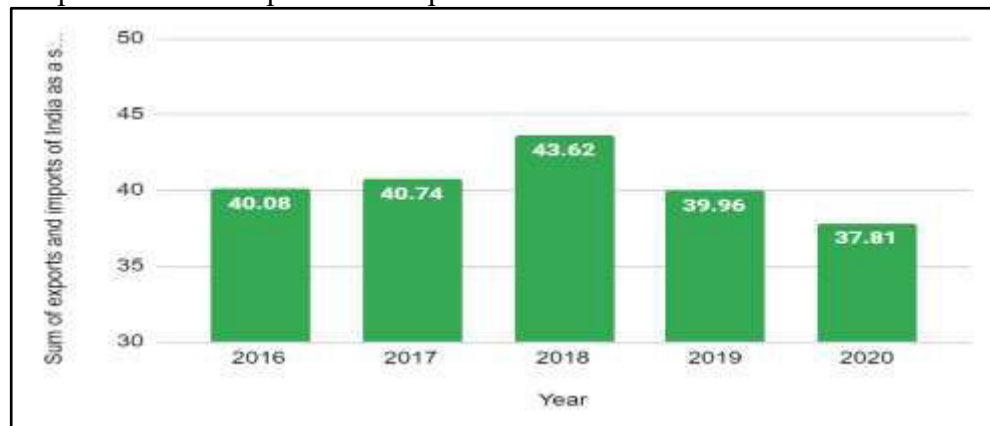


In the next section, a discussion of the openness of the US and the Indian economy has been done. It has been done using the data available from the World Bank website to take a look at how the two countries have fared on these key parameters suggesting the openness. We have taken the trade openness index, a measure of the total exports and imports of a country as a percentage of GDP. and Foreign Direct investment, a part of capital flow as another indicator to study openness. Other indicators like the barriers to trade, tariffs on imports and the exports, non-tariff barriers, and many bilateral and multilateral agreements signed by a country have also been taken into discussion.

Performance of India and USA on Openness Indicators

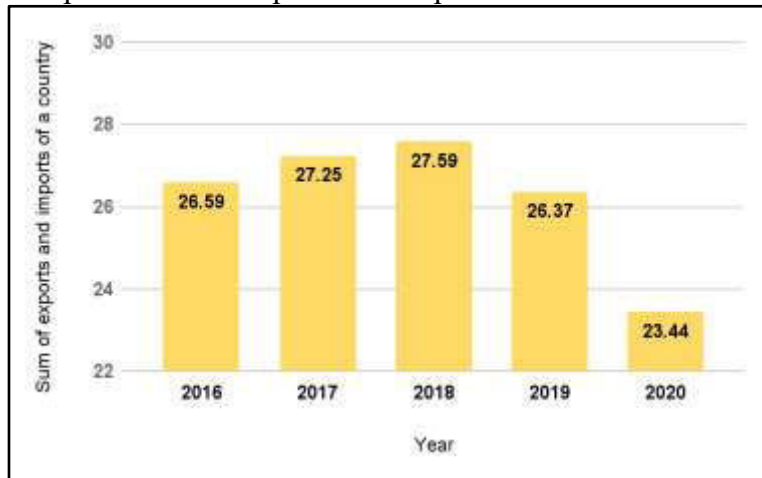
A. Trade openness index: Sum of exports and imports of a country as a share of its GDP. The sum of the exports and imports as a share of GDP is an extremely useful indicator to know the trade openness of a country. It tells the weight of domestic demand from the foreign and the weight of the foreign supply from the domestic consumers.

Graph. 1 Sum of Exports and Imports of India as a share of its GDP



For India, data tells that the trade openness index has been fluctuating between 38% to 43% over the years 2016-2020. On an average the share of exports and imports in GDP has been 40.4%, in the pre pandemic period. Due to the pandemic in 2020 the share of exports and imports has been at its minimum at 37.81% in the year 2020.

Graph. 2 Sum of Exports and Imports of US as a share of its GDP



For the USA, over the same 5 year period, the trade openness index has been fluctuating, but has still remained within the range of 23-28%. Similar to India, the Covid-19 pandemic had led to the decline in the share, indicating lesser trade carried of the US economy. The year 2018 had seen a higher share, which had been increasing from the past few years suggesting more trade in goods and services but later the share declined.

But, openness seen only as a share of the exports and imports could be misleading. This is because both the share of exports and imports have been an equal weightage in the trade openness index, but if a country has higher imports than exports then that country is actually becoming more dependent on other countries, such an openness doesn't do any good to the country and also increases the country's current account deficit.

Table 1. Net Primary Income (Billion\$) for India and the USA

Years	Net primary income in dollars\$(billion)	
	India	USA
2017	-26.42	259.54
2018	-29.76	259.13
2019	-29.38	231.92
2020	-32.04	188.46

Source: <https://data.worldbank.org/indicator/BN.GSR.FCTY.CD>

Another component of the current account is the Primary income, which isn't a part of the production process and includes compensation to employees, investment income and interest income. In India's case primary income is negative as the income that Indian residents earn from is less than what they pay to the rest of the world from working (wages) and from financial investments (dividends).

Table 2. Net Secondary Income (Billion\$) for India and the USA

Years	Net secondary income in dollars\$(billion)	
	India	USA

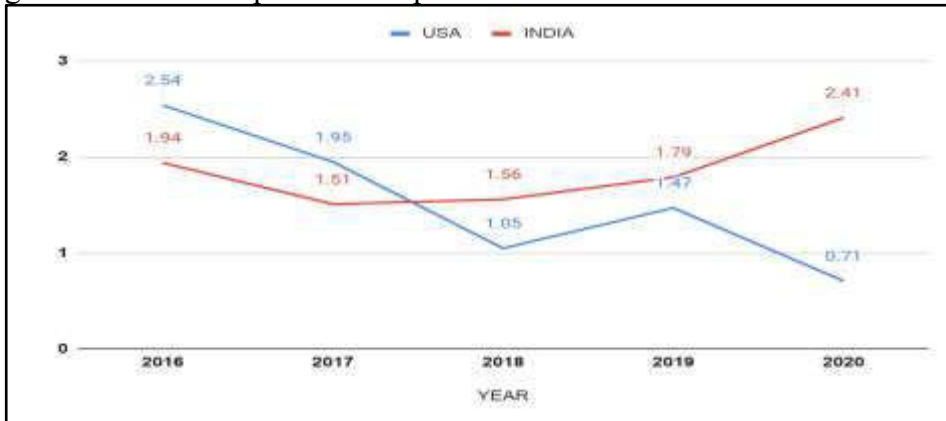
2017	60.47	-108.51
2018	70.07	-116.42
2019	73.07	-127.73
2020	73.12	-127.87

Source: <https://data.worldbank.org/indicator/BN.TRF.CURR.CD>

Another is the secondary income account showing current transfers between residents and non-residents, reflecting the process of income distribution between economies and hence their gross national disposable incomes. For India, secondary income is received mainly as personal transfers (remittances) from overseas Indians. According to the World Bank (2018), India was one of the top remittance-receiving countries in the year 2018.

B. Foreign Direct Investment

An important component of the capital flows, Foreign Direct investment, is an indicator of openness as it's commonly made in open economies that have skilled workforce and growth prospects. It is a monetary source for economic development, bringing in significant benefits like access to capital, new technologies, and knowledge. It also helps to trigger broad and deep domestic structural reforms in the region, including greater market competition and product innovation.



Graph 3. Foreign direct investment as a percentage of GDP- USA and India

Inference based on the position of India and the USA in terms of the foreign direct investment, is that before the year 2018 the foreign direct investments in India were lesser than that of the USA. But after that it has been increasing. While FDI has remained somewhat consistent in India over the 5 years it's not the case with the USA, which has seen a declining trend.

The reason for the decline in US foreign direct investment is a shift in investment sentiment driven by the corrosion of US openness to trade and global cooperation, which have played the dominant role in reducing flows. On the other hand, in India the increase is due to the liberal and open policy implemented.

C. Trade restrictions: Tariff and Non-Tariff Barriers

Sometimes the countries put tariffs on import-export. In such cases the countries tend to restrict the trade with the other countries. Such barriers include both tariff and non tariff barriers. Trade barriers include: export and import tariffs, licenses, import quotes, quality restrictions, etc.

For India and the US, the number of tariff agreements it had entered into in the year 2020 was 23 and 25 respectively, with the maximum tariff rate being equal to 150% for India and 350% for US. Such tariffs are employed as a way of protecting domestic firms from the excessive competition abroad, in a way restricting trade. It is sometimes a result of stressed political situations.

D. Number of trade agreements signed

The trade agreements signed by a country also shows its willingness to open the economy and how much more it is strengthening its linkages globally. In India's case, it is actively engaged in regional and bilateral trade negotiations expanding its export markets while ensuring access to the raw materials, intermediates, and capital goods needed to stimulate domestic manufacturing. The US has recently agreed to pursue free trade negotiations with a broad range of countries in the western hemisphere, intended to complement ongoing multilateral trade negotiations.

Overall, the study of the four measures of openness in an economy tell that India focused mainly on following liberal policies and opened up its economy more as compared to the United States in the period 2016-2020, where there were lesser trade restrictions, inflow of more FDI in the country and a number of trade agreements were also signed by the country. But the United Nations on the other hand had a more protected economy during the same period.

Steps taken by Indian and the US Government to improve trade openness

When discussing the strategies to improve trade openness the most fundamental way to improve the openness is through the trade and investment policies with the rest of the world. For the same, the Indian and the US government have taken various steps.

1. India has entered into bilateral and regional trading agreements, offering preferential tariff rates on goods traded among member countries, and also provides for wider economic cooperation in services trade, investment, and intellectual property. For example: The India-Australia Economic Cooperation and Trade Agreement (ECTA), signed on 2 April 2022, is the first trade agreement of India with a developed country after more than a decade.
2. India's Foreign Trade Policy provides the framework of policy and strategy for promoting exports and trade. It focuses on improving India's market share in existing markets and products as well as exploring new products and markets. It also helps exporters benefit from GST, closely monitor export performances, improve ease of trading across borders, and promote exports from MSMEs and labor intensive sectors.
3. USA in May 2022, launched the Indo-Pacific Economic Framework to advance sustainability, inclusiveness, economic growth, fairness, and competitiveness. The aim of the partners of the framework is to contribute to cooperation, stability, prosperity, development, and peace.
4. The USA would join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which would incentivize American firms to maintain their competitiveness by investing in export-oriented operations and promoting research, development, and education.

Does opening the economy always work?

Promoting openness benefits the economies, however still countries erect trade barriers. The question arises why? The reason barriers are put is that free trade makes certain goods cheaper to obtain overseas than to produce domestically. Because of that, job opportunities in the domestic country diminishes. It can also be vulnerable if it causes the demise of critical industries. If a country grows dependent on others for

critical products or services, it can be subject to political pressure and denied access to the goods if the agreement breaks.

Also, sometimes instead of putting barriers, governments try to encourage the domestic firms by giving them subsidies. India in 2015, announced the Foreign Trade Policy (FTP) focused on increasing India's exports to raise India's share in world exports from 2 to 3.5 percent consolidated existing export subsidies and other incentives into two main export incentive schemes, namely the Manufactured Goods Exports Incentive Scheme (MEIS) and the Service Exports Incentive Scheme (SEIS). It also maintains export subsidy programs, including exemptions from taxes for exporters in Special Economic Zones.

The Government of India in July 2016 had increased the subsidy for the garment sector resulting in the boost to employment generation. As part of its self-reliance movement, India has introduced market access barriers in the form of tariffs, localization requirements, indigenous standards requirements and labeling practices, price controls, and import restrictions. openness gets a hit, and barriers are put, for example, the US went on full blown economic war on China, restricting chip exports done to cut China off from certain semiconductor chips made with American equipment, slowing Beijing's technological and military advances.

Conclusion

Though international trade acts as a positive force, reducing poverty and inequality by creating jobs for unskilled workers, reducing inequality between workers of different educational levels, greater openness also brings increased competition from imports for previously protected industries, leading to job losses, with workers falling into poverty. Also more imports contribute to deflation and an increase in the fiscal imbalance, which is damaging to a developing country.

In the present day, the economies have shifted their economic and trade policies from traditional trade liberalization to trade protectionism, escalated by the global COVID-19 pandemic and Russia- Ukraine conflict. Globalization wave has been declining, with the priority of multinationals changing from "efficiency" toward "politically correct value-based trade". But, we should also note that anti-globalization could be very costly for consumers. What we can say is that the economies need to reach a balancing situation where they are bent to none of the extremes, be it free trade or an entirely closed economy.

Similarly, India and the US should work keeping in mind the two sides of the coin, that an open economy can hamper the nation's domestic economy and seeing the global situations it can have sharp influences on the people of the two countries. A trade off between opening up the economy and closing it needs to be checked from time to time. India, on one hand has moved to its aim of Atma Nirbhar Bharat after the Covid-19 pandemic had hit the world, US was before that too a more protected economy than India.

References

1. (2022). World Bank Open Data | Data. Retrieved November 10, 2022, from <https://data.worldbank.org/>
2. (2022). TheGlobalEconomy.com: Global economy, world economy. Retrieved November 10, 2022, from <https://www.theglobaleconomy.com/>
3. (2022). Reserve Bank of India. Retrieved November 10, 2022, from <https://www.rbi.org.in/>
4. America's current account deficit hits 12-year high in 2020 on the back of pandemic. (2021, March 23). The Economic Times. Retrieved November 10, 2022, from <https://economictimes.indiatimes.com/news/international/business/americas-current->

5. Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). (n.d.). Department of Foreign Affairs and Trade. Retrieved November 10, 2022, from <https://www.dfat.gov.au/trade/agreements/in-force/cptpp/comprehensive-and-progressive-agreement-for-trans-pacific-partnership>
6. Popa, C. E. (2019, January). (PDF) U.S. Protectionism on the Rise. ResearchGate. Retrieved April 11, 2023, from https://www.researchgate.net/publication/351050998_US_Protectionism_on_the_Rise
7. Puri, D. S. R., & Kumar, D. S. (2021). Analysing The Role Of Foreign Trade On Economic Development Of Nation. Elementary Education Online. Retrieved April 11, 2023, from <https://www.ilkogretim-online.org/fulltext/218-1639652811.pdf>
8. Ricardo, D. (n.d.). OPENNESS AND GROWTH OF THE INDIAN ECONOMY: AN EMPIRICAL ANALYSIS. Exim Bank. Retrieved November 10, 2022, from <https://www.eximbankindia.in/Assets/Dynamic/PDF/Publication-Resources/ResearchPapers/OP/21file.pdf>
9. Ricardo, D. (n.d.). OPENNESS AND GROWTH OF THE INDIAN ECONOMY: AN EMPIRICAL ANALYSIS. Exim Bank. Retrieved November 10, 2022, from <https://www.eximbankindia.in/Assets/Dynamic/PDF/Publication-Resources/ResearchPapers/OP/21file.pdf>
10. Sami, S. (2017, February 20). (PDF) Impact of Indo–US trade on India's economic growth: an empirical analysis. ResearchGate. Retrieved April 11, 2023, from https://www.researchgate.net/publication/313864202_Impact_of_Indo-US_trade_on_India's_economic_growth_an_empirical_analysis
11. XIAOZHUN, Y. (2022, November 10). Expansion and contraction - Opinion - Chinadaily.com.cn. China Daily. Retrieved November 10, 2022, from <https://www.chinadaily.com.cn/a/202211/10/WS636c486ea3105ca1f227518a.html>

12. Feasibility Study of Greenfield Project

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Journal Details	
Journal Title (in English Language)	Journal of Management and Entrepreneurship
Publication Language	English
Publisher	Xavier Institute of Management and Entrepreneurship
ISSN	2229-5348
E-ISSN	NA
Discipline	Social Science
Subject	Business, Management and Accounting (all)
Focus Subject	General Business, Management and Accounting
UGC-CARE coverage years	from October-2021 to Present

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FEASIBILITY STUDY OF GREENFIELD PROJECT

Dr. Divya Yogesh Lakhani

Associate Professor & HOD – MBA, Sadhu Vaswani Institute of Management Studies for Girls

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UGC CARE Group 1 Journal



Dr. Divya Yogesh Lakhani, Associate Professor & HOD – MBA, Sadhu Vaswani Institute of Management Studies for Girls

Dr. Puja Bhardwaj, Associate Professor, Pratibha Institute of Business Management

Abstract

Companies venturing into Greenfield Projects undertake to make huge investments into the business ventures that offer opportunities for development in surrounding areas and provision of job opportunities. The study focuses on one such project undertaken by a milk and milk products company; an integrated dairy plant located in Dhule District of Maharashtra. A feasibility study was conducted wherein the projections were made on a ten- year time horizon. This was then analysed using net present value and internal rate of return. It was found that the company is generating positive returns ensuring the financial viability of the project.

Keywords: CAPEX, Green Field Project, NPV, IRR

Introduction:

A Greenfield project refers to the construction or development of a new project or system from scratch, without any prior constraints or limitations. The term "Greenfield" is derived from the concept of a fresh, unspoiled piece of land, which is analogous to the beginning of a new project without any prior infrastructure or pre-existing codebase.

In the business world, a Greenfield project typically refers to the creation of a new business, facility, or system in a completely new and undeveloped area. It is an opportunity to start from scratch, with no pre-existing legacy infrastructure, processes or systems, and build something new and innovative to address market needs or demands.

Greenfield projects are often undertaken by organizations looking to expand their business into new markets or to create a new product or service offering. These projects require significant planning and resources, including research, capital investment, and hiring a team of experts with the necessary skills and expertise to execute the project successfully.

Greenfield Dairy refers to a dairy farm that is newly established or developed on undeveloped land. In other words, it is a dairy farm that is built from scratch on a new site rather than on an existing farm or facility.

Greenfield Dairy projects involve the construction of all necessary infrastructure and facilities, such as milking parlors, barns, feed storage areas, and waste management systems, among others. The project also involves acquiring the necessary equipment, such as milking machines, tractors, and feeders, as well as the selection and breeding of dairy cows.

Greenfield Dairy projects can be challenging and require significant investment in terms of time, resources, and capital. However, they also offer the opportunity to create a modern, efficient, and sustainable dairy farm that can meet the needs of the local market and consumers. Such farms can incorporate the latest technologies and innovations in animal welfare, feed management, and milk production to ensure the highest quality milk and dairy products.

Several studies have been conducted on greenfield projects in different industries, such as manufacturing, energy, and transportation. For example, a study by De Marchi et al. (2017) examined the factors that affect the success of greenfield projects in the renewable energy sector, including market conditions, technology, and government policies. They found that the availability of government subsidies and favorable regulations are key factors in the success of greenfield projects in this sector.

Another study by Koc and Arslan (2017) focused on the challenges of greenfield projects in the construction industry. They found that the lack of infrastructure, skilled labor, and financing are major obstacles for greenfield projects in this sector. However, they also identified strategies that can help mitigate these challenges, such as partnering with local companies and utilizing innovative financing models.

In the context of international business, greenfield projects have been found to be a popular mode of foreign direct investment (FDI). A study by Meyer and Nguyen (2005) compared the performance of greenfield projects and acquisitions in the manufacturing sector in Hungary. They found that greenfield projects outperformed acquisitions in terms of job creation and exports, but acquisitions had a faster time-to-market and were more successful in the short term.

Overall, the literature suggests that greenfield projects offer several advantages, such as the ability to create jobs, build new infrastructure, and promote economic development. However, they also come with significant challenges, such as the need for extensive planning and investment, and the risk of failure due to unforeseen circumstances. To maximize the success of greenfield projects, it is important to carefully consider the local context, engage with stakeholders, and adopt innovative strategies for financing and partnership.

Problem Statement:

XYZ Milk and Products Private Limited was proposed to be set up as a Greenfield Project - an integrated dairy plant located in Dhule District of Maharashtra.

The need of the hour is to establish Greenfield projects for the economic prosperity of the country. For setting up this Greenfield Project, the company needs to ensure that all the necessary documents are in order. The capital expenditure requirements are very high – and therefore the feasibility report needs to be prepared, to ensure that the project is financially viable. If it is found to be profitable, then the company needs to tap various sources of finance ensuring a healthy debt-equity mix.

Objective of Study:

To undertake the Feasibility Analysis of the Greenfield Project for ABC Milk and Products Private Limited.

Analysis and Discussion:

The company already had land for the project, because of which the capex needed to be incurred only on construction of buildings and acquiring machines. The details are shown in Table 1:

Table 1

Sr. No	Particulars	₹ in Lakhs
1	Building and Civil Work	1460
2	Plant & Machinery	2040
4	Formation Expenses	50

5	Working capital margin	110
	Total	3660

The construction is expected to be completed by year end and the revenue generation will commence from year 2. Fixed asset turnover ratio in the dairy industry is 6 on an average (Khan, et. al., 2021). The projected turnover in Year 2 would amount to ₹ 21000 Lakhs. The sales are expected to grow @ 10% each year. Table 2 shows the summary of projected profit.

Table 2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year
Sales - Milk, Paner and other Milk	0	2100	2310	2541	2795	3074.6	3382.0	3720.2	4092.3	4501.5
Less: Cost of Goods Sold	0	1890	2079	2286	2515.5	2767.1	3043.8	3348.2	3683.0	4051.3
Gross Margin	0	210	231	254	279.5	3074.6	3382.0	3720.2	4092.3	4501.5
Less: Operating Expenses	0	61	70	81	94	108	125	144	157	172
Profit Before Depreciation, Interest	0	149	160	172	185.0	1985.6	2127.0	2277.2	2515.3	2778.5
Less: Depreciation	0	43	38	33	29	26	19	16	14	12
Profit Before Interest and Tax	0	105	122	138	155.4	1723.6	1936.0	2112.2	2372.3	2654.5
Less: Interest on Loan	0	24	22	19	17	14	10	90	94	99
Profit Before Tax	0	80	99	118	138.3	1583.6	1831.0	2022.2	2278.3	2555.5
Less: Tax @ 30%	0	24.1	29.9	35.6	41.49	475.08	549.32	606.68	683.49	766.66
Profit after Tax	0	56.4	69.7	83.1	96.8.1	1108.5	1281.7	1415.5	1594.8	1788.8

The computation of cash flows of the project over the ten-year time horizon and their present value assuming the cost of capital to be 10% are shown in Table 3.

Table 3

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Capital Outlay	3660									
Profit after Tax	0	564.2	697.9	831.6	968.1	1108.5	1281.7	1415.5	1594.8	1788.8
Add: Depreciation	0	436	382	336	296	262	191	165	143	124
Cash Flow	-3660	1000.	1079.	1167.	1264.1	1370.5	1472.7	1580.5	1737.8	1912.8
PVF @ 10%	1	0.90909	0.8264	0.7513	0.6830	0.6209	0.5644	0.5131	0.4665	0.424
Present Value of Cash Flows	-3660	909.272	892.47	877.23	863.44	850.98	831.32	811.09	810.70	811.24

The Net Present Value of the Project is ₹ 3997.79 Lakhs and the Internal Rate of Return is 19% indicating that the project is financially feasible for the company to take it up.

Conclusion:

Investment in capital expenditure projects leads to creation of fixed assets that allow the company to boost their revenues and also lead to the development of economy. It needs a conscious decision on the part of the company’s finance department. First, they have to ensure that sufficient funds are available to fund the project – be it equity or debt. Secondly, the project should be financially viable. A wrong decision would have long term implications for the company – a huge interest burden, decrease in shareholder’s wealth. The company under consideration planning to undertake a Greenfield Project analysed the financial viability by doing the profit projections over a ten-year time horizon. A positive net present value and internal rate of return above the cost of capital led the company to accept the Greenfield Project.

References:

De Marchi, V., Di Maria, E., Farnia, L., & Mancini, M. (2017). Success factors in greenfield projects: Insights from the renewable energy sector. *Journal of Cleaner Production*, 168, 1469-1479.

Koc, E., & Arslan, G. (2017). Challenges of greenfield projects: A literature review. *Journal of Construction Engineering and Management*, 143(4), 04017004.

Meyer, K. E., & Nguyen, H. V. (2005). Foreign investment strategies and sub-national institutions in emerging markets: Evidence from Vietnam. *Journal of Management Studies*, 42(1), 63-93.

13. Financial Planning for Dewks

The screenshot shows the UGC-CARE List search results page. The search criteria are "2229-5348", resulting in 1 journal. The table below lists the journal details.

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of Management and Entrepreneurship	Xavier Institute of Management and Entrepreneurship	2229-5348	NA	from October-2021 to Present	View

Showing 1 to 1 of 1 entries

The screenshot shows the detailed view of the journal entry. The details are as follows:

Journal Details	
Journal Title (in English Language)	Journal of Management and Entrepreneurship
Publication Language	English
Publisher	Xavier Institute of Management and Entrepreneurship
ISSN	2229-5348
E-ISSN	NA
Discipline	Social Science
Subject	Business, Management and Accounting (all)
Focus Subject	General Business, Management and Accounting
UGC-CARE coverage years	from October-2021 to Present

Journal- <https://xime.org/jme/jme-home>

JME

JOURNAL OF MANAGEMENT AND ENTREPRENEURSHIP

Certificate of Publication

This is to certified that the article entitled

FINANCIAL PLANNING FOR DEWKS

Dr.DivyaYogeshLakhani

Associate Professor &HOD – MBA, Sadhu Vaswani Institute of Management Studies for Girls

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UGC CARE Group 1 Journal



FINANCIAL PLANNING FOR DEWKS

Ms. Kajal Yadav, Student – MBA I, Sadhu Vaswani Institute of Management Studies for Girls
Dr.DivyaYogeshLakhani, Associate Professor &HOD – MBA, Sadhu Vaswani Institute of Management Studies for Girls

ABSTRACT

In today’s environment of VUCA (Vulnerability, Uncertainty, Complexity, and Ambiguity) where uncertainty is growing, financial planning is very essential to beat the Inflation. DEWKS refers to the household where both the spouse is earning and have at least one child, therefore their financial planning is different from other households. Primary data was collected using a structured questionnaire. The major findings of the study were, 84.5% of people were investing in bank deposits, where banks provide only 4-6% interests rate. 76.4% people had considered life insurance and medical insurance in their financial planning. 54.1% of people invest in such a way so that they can claim maximum tax benefit.

Key words:Financial goals, DEWKS, financial Planning. VUCA, DINKs, Disposable income, Inflation, Rate of Return,

Introduction:

Financial planning refers to management of finances in such a way that a person can achieve his/her financial goals. It is the need of the hour considering that we are living in VUCA (Vulnerability uncertainty, Complexity, Ambiguity) world. It helps in analysing financial goals and managing the income. If a person fails to manage his finance in a proper way, it leads to accumulation enormous debt. Financial plan helps to tackle the uncertain events smoothly, without compromising wealth.

Financial goals should be set in using SMART (Specific Measurable Actionable Realistic Time bound) approach.

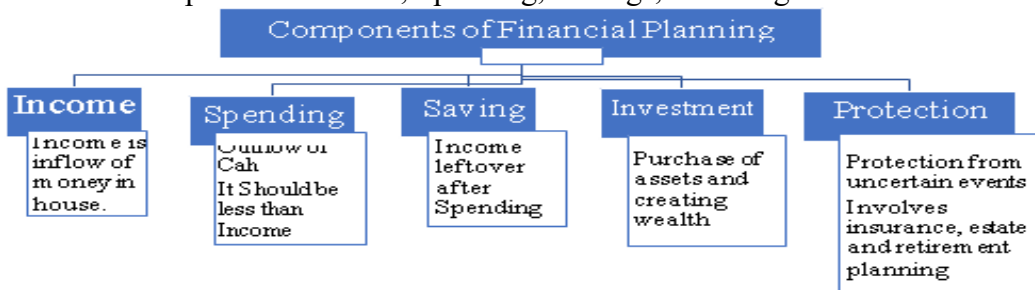
DEWKS refers to the household where the individual and his/her spouse are earning and have at least one child. In such a household there are two sources of income and therefore needs to be managed properly, failure to do so will lead to fluctuations in the path of achieving financial goals despite having high disposable income compared to single income household.

DEWKS tend to save more than DINKs(Dually employed with NO Kids). Financial plan is very essential for DEWKS as they have the responsibility of their children to provide them better standard of living and education. They have to be cautious while saving and investing. They have more expenses to take care of and therefore their disposable income is less.

Generally,DEWKS have goals like child’s education, Buying a house, family Vacations, Estate planning, Uncertainty fund etc.

Factors important to keep in mind while investing by DEWKS are Income level, child’s education level, health.

Components of Financial plan are: Income, Spending, Savings, Investing and Protection.



A good financial plan says that every individual must save 3 months of Income or expenses for emergency fund. Investments must be made in such a way so that it gives a good Rate of return to beat the inflation.

Literature Review:

Biradar Shivkumar and Balkrishna Hibare (2021) in their paper studied the perceptual analysis of individual for personal financial planning. The paper was conducted to study the awareness and knowledge of PFP of salary earners. The study was based on primary data. The paper concluded that about 40% of respondents were not aware about PFP and 45% of respondents did not consult to professional for their financial decisions.

Chandra Kumud and Bhuyan Ujjal (2022) in their paper studied the level of financial planning and financial wellbeing of individuals in Jorhat District. The study was based on primary data. The paper also studied the reasons and challenges faced by respondents while financial planning. The paper concluded that a good financial plan results in good economic wellbeing in the life of individuals.

Adhikari Risav and Poddar Shiwangi (2021) in their paper studied the difference in perception and investment pattern of same generation group. This was based on primary data through a structured questionnaire among 140 respondents. This paper concludes that young generation is active investor and older generation is passive investor.

Gupta Surbhi, Verma Sanjeev, Sharma Kuldeep, and Gupta Ritesh (2020) in their paper, studied the tax awareness among the assessee and how they use this knowledge in wealth creation. The study was based on primary data. The paper studied the assessee's knowledge of Income Tax Act and its deductions in deciding the investment portfolio which maximizes his earnings and minimizes the Tax amount.

Methodology:

The study is based on primary data, which collected through a structured questionnaire distributed through social media platforms. The study used snowball sampling method for collecting data. The sample size is 60 Respondents.

Objectives of the study:

1. To study the investment pattern of DEWKs
2. To study the tax planning of DEWKs

Discussion and Analysis:

Demographic profile

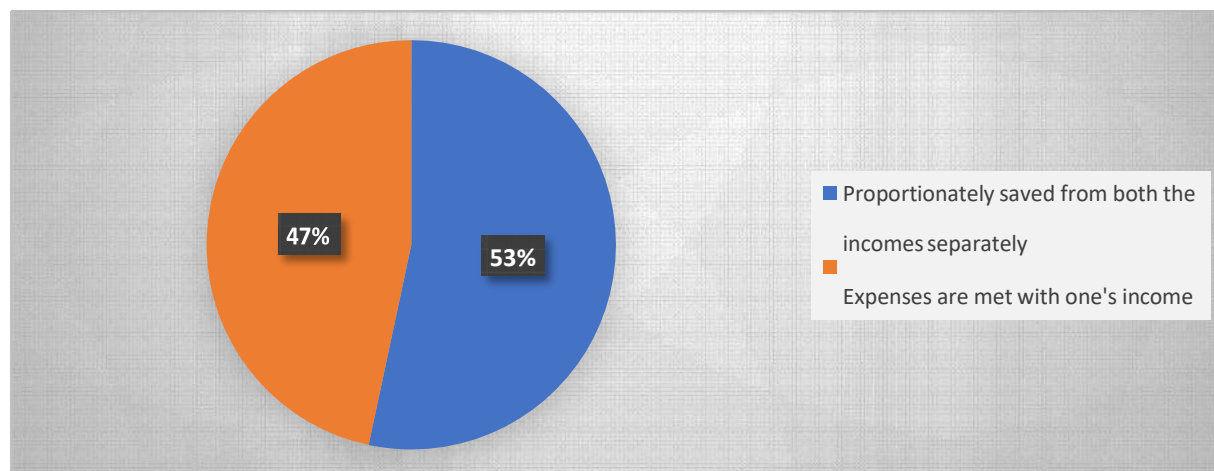
Table 1. Demographic profile of Respondents

Basis		%
Gender	Male	29.7
	Female	68.8
Occupation	Prefer not to say	1.6
	Service	42.2
	Business	14.1
	Profession	9.4

	Others	34.4
Age	Below 30 years	40.6
	30-45 years	29.7
	45-60 years	29.7
Income	Below 3,00,000	39.1
	3,00,000-6,00,000	25
	6,00,000-9,00,000	12.5
	9,00,000-12,00,000	12.5
	12,00,000-15,00,000	6.3
	15,00,000 above	4.7
No. of children	1	36.1
	2	50.8
	3 or above	15.1
No. of Dependent member in family	1	36.5
	2	36.5
	3 or above	27

Investment planning:

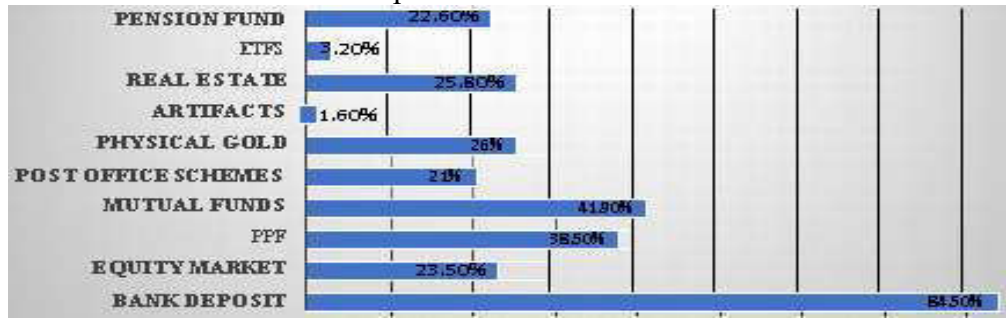
Chart 1: Income management



Source: Sample Data

Observations: 47% of respondents (household) meet their expenses from one's income and other's income is saved. 53 % of respondents save from both incomes separately.

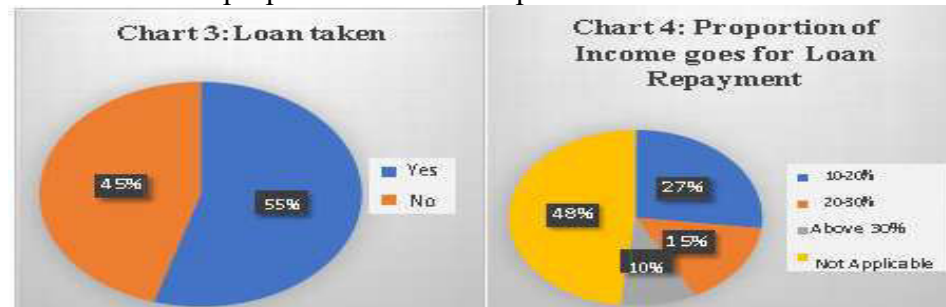
Chart 2: Investment Avenue opted for



Source: Sample Data

- 84.5% of respondents invested in Bank Deposit, for the purpose of safety.
- 41.90% respondents prefers Mutual Funds, as they wanted to diversify their finance.
- 38.50%, 25.80% and 26% of respondents invested in PPF, Real Estate and Physical Gold respectively.
- 22.60%, 21% and 38.5% invested in pension fund, post office schemes and Equity market respectively.

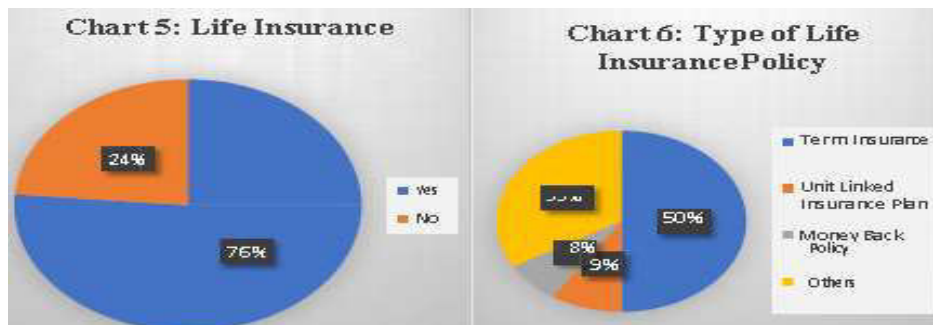
Loan Taken and proportion of income spend on Interest on Loan



Source: Sample Data

- 55% of respondents have taken Loan, out of which 27% of respondents pay 10-20% of their income for loan, 15% of respondents pay 20-30% of their income and 10% of people pay more than 30% of their for loan repayment. It increases their expenses and reduces savings. Respondents who pay more than 30% of their income for repayment of loan do not have a good financial plan.
- 45% of respondents have not taken any type of loan, it increases savings but not taking any type of loan impacts the CIBIL score.

Insurance



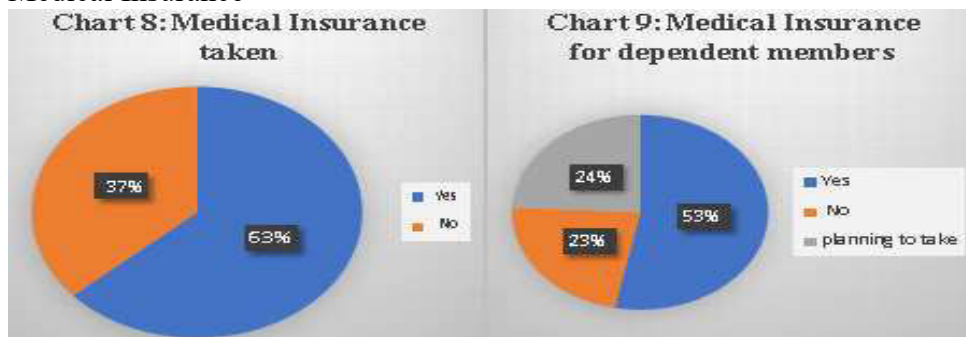
Source: Sample Data



Source: Sample Data

- 76% respondents have taken life insurance out of which 75% respondents have taken Term Life Insurance, 14% have taken Unit Linked Insurance Plan and 11% have taken Money Back policy. In a good financial plan an individual must have at least one Life Insurance for the protection purpose.
- 35% of respondents have taken the policy of below Rs.5 lakh, 37% have insurance cover of Rs.5 lakh to Rs.10 lakh, 8% have cover of 10-15 lakh Rs., 4% have Rs.15 lakh to Rs.20 lakh Of insurance cover.
- 16% of respondents have insurance cover of above Rs.20 lakh. Higher the insurance cover higher will be the premium.

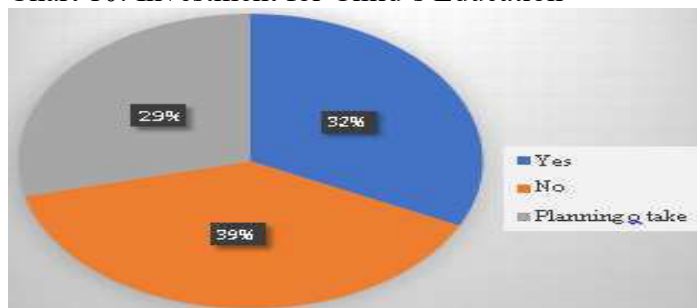
Medical Insurance



Source: Sample Data

- 63% of respondents have taken medical insurance for themselves and 37% have not taken.
- 53% of respondents have taken medical insurance for the dependent members, 23% have not taken it and the remaining 24% of respondents are planning to take in upcoming years.
- It is taken with the purpose of facing any medical emergency without putting Financial burden on family.

Chart 10: Investment for Child’s Education

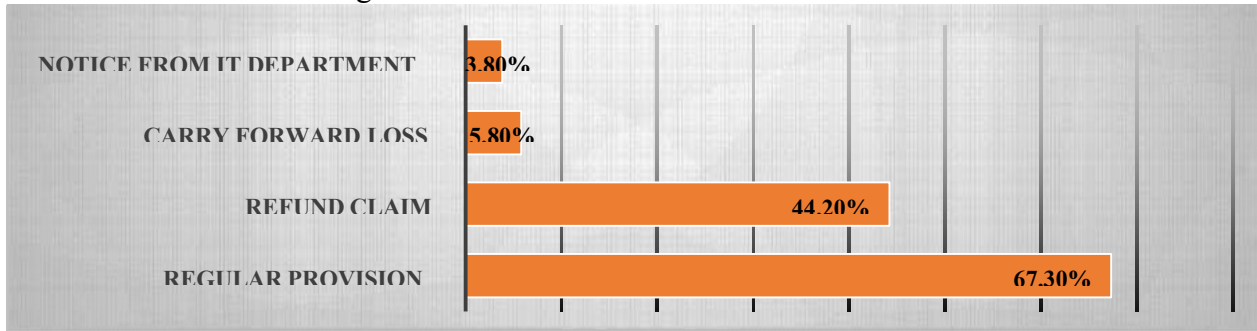


Source: Sample Data

- 32% of respondents have invested for their child’s education and 39% of respondents have not invested anywhere.
- 29% of people were planning to invest for child’s education.
- Investment for child’s higher education should be done at early age of the child so that less amount is invested for longer duration to get desired maturity amount.

Tax Planning

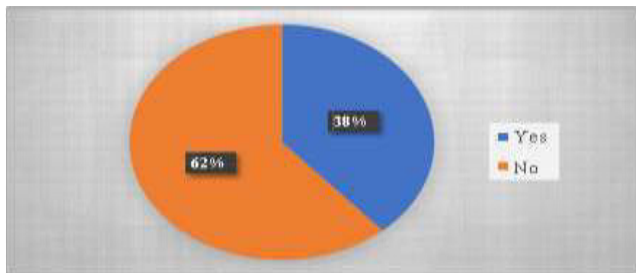
Chart 11: Reasons for filling Tax Return



Source: Sample Data

- 67.30% of respondents file ITR because of Regular provision, 44.20% file it for claiming Refund, 5.80% of people file ITR for carrying forward losses in case of income from house property or from business or profession.
- 3.80% of respondents file ITR because they received notice from IT department.

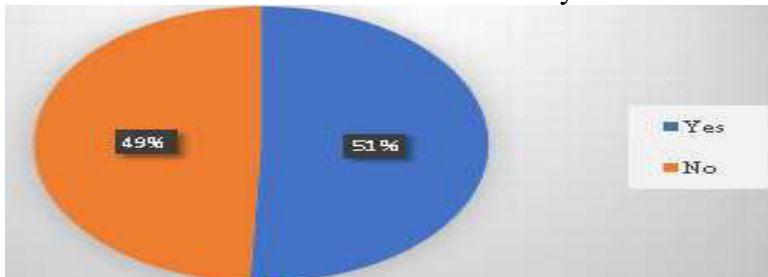
Chart 12: Purchase of house to save on Taxes



Source: Sample Data

- 38% of respondents have purchased house to save on taxes, it means they have invested in real estate.
- 62% of respondents have not purchased a house either they stay in rented house or buying a house is not for the purpose of tax benefit.

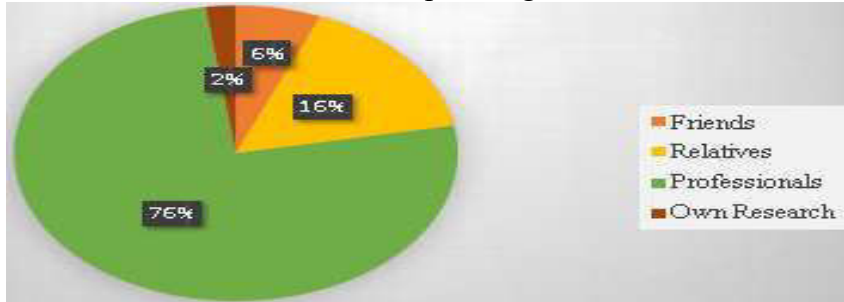
Chart 13: Investment are done in such a way that both can claim benefits



Source: Sample Data

- In DEWKs household, 51% of respondents invest in such a way that husband and wife can claim maximum tax benefit.
- 49% of respondents are investing to claim tax benefit separately.

Chart 14: Advice Taken for Tax planning



Source: Sample Data

- 76% of respondents take the advice of professionals for tax planning.
- 16%, 6% and 2% of respondents take advice from their relatives, friends and do their own research before making investment to claim tax benefit.

Recommendations:

- People can invest their Emergency Fund in Liquid Mutual Fund as it gives liquidity as well as higher rate of return as compared to bank deposit which gives 4-5% return.
- Households can use 50/30/20 budgeting method in their financial planning where 50% for essentials, 30% discretionary expenses and 20% for investments for future needs.
- For emergency fund an Individual must keep aside his/her 3 months of living expenses and once it is filled, he/she can save for achieving financial goals.

Conclusion:

A DEWKs household is in a place where the couple has to split the lifestyle expenses as well as can take a powerful move for investments, which reduces the financial burden of the family. Each family plans their finances either by taking advice from professionals or doing the research on their own. The study found that the couple generally prefers investing in Bank Deposit, following the principal of safety. They also prefer to avail Term Insurance. This the primary objective of investing of such the family is to avail the tax benefit. Hence, it can be concluded that the family need to increase their risk appetite so that they can take the benefit from the Mutual fund or Equity market to maximize their return and increase their corpus for the retirement.

References:

Shivkumar, B. and Balkrishna, H. (2021). Personal Financial Planning : Perceptual Analysis, Institute of Cost Accountant of India, Vol 56, No.11

Chandra, K and Bhuyan, U (2022). Personal Financial Planning and Financial Wellbeing : A study On school Teachers in Jorhat district, Xavier Institute of management and Entrepreneurship, Vol 16, No 2

Adhikari, R and Poddar, S. (2021). Generation differences in Personal Finance Behaviour: A insight into investors in Kolkata, Lattice Science Publication, Vol 1, No 2

Gupta, S., Verma, S., Sharma, K. and Gupta, R. (2020). A Study of Tax Planning in Respect of Wealth creation of Assesse, International Journal of Commerce and Management, Vol 7

14. Study on Investors Preference on Mutual Funds

The screenshot shows the UGC-CARE List search results page. The search criteria are "2229-5348", resulting in 1 journal. The table below lists the journal details:

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of Management and Entrepreneurship	Xavier Institute of Management and Entrepreneurship	2229-5348	NA	from October-2021 to Present	View

Showing 1 to 1 of 1 entries. Navigation: Previous, 1, Next.

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The screenshot shows the UGC-CARE List journal details page for the journal "Journal of Management and Entrepreneurship". The details are as follows:

Journal Details	
Journal Title (in English Language)	Journal of Management and Entrepreneurship
Publication Language	English
Publisher	Xavier Institute of Management and Entrepreneurship
ISSN	2229-5348
E-ISSN	NA
Discipline	Social Science
Subject	Business, Management and Accounting (all)
Focus Subject	General Business, Management and Accounting
UGC-CARE coverage years	from October-2021 to Present

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JOURNAL OF MANAGEMENT AND ENTREPRENEURSHIP

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This is to certified that the article entitled

STUDY ON INVESTORS PREFERENCE ON MUTUAL FUNDS

Dr. DivyaYogesh Lakhani

Associate Professor & HOD-MBA, Sadhu Vaswani Institute of Management Studies for Girls, Pune

University Grants Commission

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ISSN : 2229-5348

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UGC CARE Group 1 Journal



Ms.Mahima Sachdev Student - MBA, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Dr. Divya Yogesh Lakhani Associate Professor & HOD-MBA, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Abstract

Nowadays people are keen to invest their part of the income as their savings or for future expenditure like for post-retirement expenses, for children's education or marriage or for short term or a long period of time. A Mutual Fund is an investment vehicle that pools funds from various investors and invests the Funds in stocks, bonds, short-term money-market instruments, other securities or assets or some Combination of these investments. The primary goal behind investment in mutual funds is to earn good return with comparatively low risk. The reason for the research is to identify preference of investors towards mutual funds in Pune. By using a structured Questionnaire data was analyzed. The main finding from this research was that people prefer to invest in mutual funds.

Key words- Mutual funds, Investment, stocks, bonds, short term, market instruments.

Introduction

A Mutual fund is just the connecting bridge or a financial intermediary that allows a group of investors to pool Their money together with a predetermined investment objective. It will have a Fund Manager who is Responsible for investing the money so received into specific securities (stocks or bonds). Investment means an asset or item this is purchased with the hope that it'll make earnings or be Pleased approximately inside the destiny. Mutual funds can be Classified based on Structure (open-ended, close-ended and interval schemes), Nature (equity, debt, balanced), Investment objective (growth, income, money market) etc. Equity investments are meant for a longer time Horizon. Thus Equity funds rank high on the risk-return matrix. Debt schemes invest maximum of their total Corpus in debt instruments while they take minimum exposure in equities. It gets benefit of both equity and Debt market. These schemes rank slightly high on the risk-return matrix when compared with other schemes. There are three ways, where the total returns derived from Mutual funds can be enjoyed by investors. Firstly, Income is earned from dividends on stocks and interest on bonds. A fund pays out nearly all income it receives Over the year to fund owners in the form of distribution. Secondly, if the fund sells securities that have Increased in price, the fund has a capital gain. Most funds also pass on these gains to investors in a distribution And finally if fund holdings increase in price but are not sold by the fund manager, the fund's shares increase in Price. Investors can then sell their mutual fund shares for a profit. Funds will also usually give the investor a Choice either to receive a cheque for distributions or to reinvest the earnings and get more shares. On liquidity Side, just like an individual stock, Mutual fund also allows investors to liquidate their holdings as and when they Want.

Literature Review

Mutual funds are a popular investment vehicle that allow individuals to pool their money together to invest in a diversified portfolio of securities such as stocks, bonds, and other assets. A literature review on mutual funds can provide insights into the various aspects of mutual fund investing, including their benefits, risks, performance, and management.

One of the key benefits of mutual funds is their ability to provide diversification and professional management. In their review of the mutual fund literature, Fama and French (2010) highlight that mutual funds offer investors access to a diversified portfolio of securities, which can help to reduce overall portfolio risk. Additionally, the active management provided by mutual fund managers can potentially lead to higher returns, although this is not always the case.

However, mutual funds also come with risks, including fees and expenses that can eat into returns, as well as the risk of underperformance. In their review of the literature, Malkiel and Saha (2005) argue that the high fees associated with actively managed mutual funds can significantly impact returns over the long term, and that investors should carefully consider these costs before investing in a particular fund.

Another key area of research on mutual funds is their performance. Some studies have suggested that actively managed mutual funds underperform passive index funds over the long term (e.g., Fama and French, 2010; Malkiel and Saha, 2005). However, other research has shown that certain types of actively managed funds, such as those that invest in small-cap or value stocks, can outperform their benchmarks (e.g., Carhart, 1997).

Finally, the literature on mutual funds also explores various aspects of fund management, such as the impact of fund size and manager tenure on performance. For example, some studies have suggested that smaller funds and funds with longer-tenured managers may outperform larger funds and those with shorter-tenured managers (e.g., Khorana, Servaes, and Tufano, 2009).

Overall, the literature on mutual funds highlights the benefits and risks associated with these investment vehicles, and provides insights into various aspects of their performance and management. Investors considering investing in mutual funds should carefully consider these factors and conduct their own due diligence before making investment decisions.

Research Methodology

The Objectives of Study are:

1. To study the awareness level of Mutual fund
2. To find out the reasons for selection of Mutual fund as an investment option
3. To study the satisfaction level of investors in Mutual fund
4. To study the Individual Investor’s investment pattern in schemes of Mutual funds

Data Collection:

The data has been collected from primary as well as secondary sources. Primary Data:

Method of sampling	Non-Probability Convenience Sampling
Sample Size	101
Area of Study	Pune
Method of data collection	Structured Questionnaire

Secondary Data

1. Investment Magazines, business magazines, financial chronicles.
2. Data available on the internet through various websites.
3. Books written by various Indian and foreign author on investments.
4. Opinion of experts published in multiple newspapers. Articles in financial newspapers.

Limitations of Study:

1. Reluctance of the people to provide complete information about them can affect the Validity of the responses.
2. Lack of knowledge of customers about the mutual funds can be a major limitation.
3. Besides the study limitation of time and response was faced.

4. The interpretation of this study is based on the assumption that the respondents have given correct information.

Analysis and Discussion:

Table 1: Gender

Gender	Responses	Percentage
Male	47	46.5%
Female	54	53.5%
Total	101	100%

Analysis -From the above table it is concluded that in the research done there were 46.5% male and 53.5% females.

Table 2: Age Group

Age group	Responses	Percentage
Age18-25	28	27.7%
Age26-35	33	32.7%
Age36-50	26	25.7%
Age51-60	10	9.9%
Ageabove60	4	4%
Total	101	100%

Analysis- The research shows the maximum people from research were from age 26-35

Table 3: Income

Income	Responses	Percentage
Rs. 0.0-Rs 2.5lakhs	6	26.7%
Rs 2.5lakhs toRs 3lakhs	16	15.8%
Rs3lakhstoRs5lakhs	28	27.7%
Rs5lakhsto7.5lakhs	18	17.8%
Rs 7.5lakhs toRs 10 lakhs	6	7.4%
aboveRs10lakhs	27	5.9%
Total	101	100%

Table 4: Objective of Savings

Objectivesofyoursaving	Responses	Percentage
Accumulationoffunds	8	22.8%
Housedevelopment	19	18.8%
Taxsaving	22	21.8%
Marriageofyoungsters	13	12.9%
Educationofkids	8	8.9%
Procurementforretirementlife	9	7.9%
Meetingcontingencies	7	6.9%
Total	101	100%

Analysis: 22.8% people's objective of saving is accumulation of funds

Table 5: Sources of Influence of Investment Decision

Sourcesofinfluenceof investmentdecisions	Responses	Percentage
ownventurecapital choice	33	33.7%
financialspecialist	37	33.6%
familyandfriends	31	30.7%
Total	101	100%

Analysis - 36.6% people's source of influence is financial specialist

Table 6: Risk Appetite

Yourriskappetite	Responses	Percentage
High	16	15.8%
Moderate	63	62.4%
Low	22	21.8%
Total	101	100%

Table 7: Type of Investment Plan

Type	Responses	Percentage
Systematic Investment Plans	47	46.5%
One-Time Investment	18	17.8%
Both	36	35.6%
Total	101	100%

Analysis - 46.5% of people adopt Systematic Investment Plans, where as 17.8% people choose one time investment and 35.6% choose both the options.

Table 8: Time Horizon for investing in Mutual Funds

Time Horizon	Responses	Percentage
Less than 3 years	49	48.5%
3-5 years	23	22.8%
5-10 years	21	20.8%
10-15 years	6	10.1%
Above 15 years	2	2%
Total	101	100%

Analysis - 48.5% people prefer to invest mutual fund for less than a year.

Table 9: Response for less than target rate of return in Mutual Funds

If the return of MF are less than you expected what will you do	Responses	Percentage
Prompt withdrawal	51	32.7%
hold for some time	17	45.5%
purchase another mutual fund scheme	33	21.8%
Total	101	100%

Analysis - If the returns from mutual fund are less than 32.7% people wish to withdraw it and 45.5% people to hold for some time and 21.8% people will purchase another mutual fund scheme.

Conclusion:

The study draws an important conclusion from the study that the investors are keen to invest in long term and less risk products, much interested to earn the good return on their investments. Investors are aware about the factor affecting their short term as well as long-term investment plans and they do take advice from different experts, self-analysis by investors themselves. This intensive study will somehow help investors in deciding the correct investment for their savings leading player in the security dealing market. The analysis and interpretations very clearly shows that the investors have different views like investment pattern by market movement, factors influencing their decision, frequency of investment, alternatives available and investment preferences truly influence their perception towards different products and services of the company. Thus, to conclude the study says that the Indian investment community have shown much interest in investing different financial products available in the market due to the spiraling growth of Indian GDP, better performance by the companies, liberal rules and regulations by the authority like SEBI to protect the investors interest and this process will grow much more quicker in the future.

References:

1. Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of Finance*, 52(1), 57-82.
2. Fama, E. F., & French, K. R. (2010). Luck versus skill in the cross section of mutual fund returns. *The Journal of Finance*, 65(5), 1915-1947.
3. Khorana, A., Servaes, H., & Tufano, P. (2009). Mutual fund fees around the world. *The Review of Financial Studies*, 22(3), 1279-1310.
4. Malkiel, B. G., & Saha, A. K. (2005). Hedge funds versus mutual funds as active portfolio management vehicles. *The Journal of Portfolio Management*, 31(1), 51-64.

15. Pink Tax- The Hidden Cost of Inequality- Awareness Amongst Women

The screenshot shows the UGC-CARE List search results page. The search criteria are "0974-5114". The results table is as follows:

Sl.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Perspectives in Social Work (print only)	College of Social Work, Nimlata Niketan	0974-5114	NA	from September-2019 to Present	View

Showing 1 to 1 of 1 entries

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The screenshot shows the UGC-CARE List journal details page for the journal "Perspectives in Social Work (print only)". The details are as follows:

Journal Details	
Journal Title (in English Language)	Perspectives in Social Work (print only) (Current Table of Content)
Publication Language	English
Publisher	College of Social Work, Nimlata Niketan
ISSN	0974-5114
E-ISSN	NA
Discipline	Social Science
Subject	Social Sciences (all)
Focus Subject	General Social Sciences
UGC-CARE coverage years	from September-2019 to Present

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Journal- <https://cswnn.edu.in/about-the-journal>



CERTIFICATE OF PUBLICATION

This is to certify

Isha Khandekar, Harshali Bhalerao

For the Paper Entitled

**PINK TAX – THE HIDDEN COST OF INEQUALITY -
AWARENESS AMONGST WOMEN**

Volume: XXXVIII, No.1 April, 2023 In Perspectives in Social Work, ISSN: 0974-5114 (UGC Care Listed Journal)

Dr Lidwin Dias
Principal (In-charge),
College of Social Work
Nirmala Niketan, Mumbai





PINK TAX – THE HIDDEN COST OF INEQUALITY - AWARENESS AMONGST WOMEN

¹Isha Khandekar ²Harshali Bhalerao

ABSTRACT

This research study sheds light on the phenomenon of the Pink Tax, which refers to gender-based price discrimination where products marketed towards women are priced higher than similar products marketed towards men. The significance of studying the Pink Tax lies in its implications for gender inequality, women's financial stability, and the beauty standards created by media and television industries. This research also aims at understanding the awareness about gender-based discrimination and bias in the marketplace, the economic burden it places on women, and its link to unachievable beauty standards. The research also emphasizes the role of marketing and branding in influencing consumer behavior.

Overall, this research concludes that the Pink Tax is a pervasive issue that requires collective action from individuals, organizations, and policymakers to promote fairness and equity in pricing practices and combat gender-based discrimination.

INTRODUCTION

Pink tax is a form of gender-based pricing discrimination that refers to an inherently invisible cost that women are paying for things that are specifically intended and marketed to women, as opposed to products that are made and marketed to males, which are usually available for less.

Gender-based pricing might appear in one of two ways. (Ferelle, 2012). First, manufacturers are forced to sell goods marketed to women at prices higher than virtually homogeneous goods sold to males due to profit-maximizing techniques (deliberate or inadvertent) applied based on psychology, purchasing behaviour, preferences, and market trends. The term "Pink Tax" in this context does not refer to a concrete tax. Due to the uniformity between the two product categories, women tend to be oblivious of the "Pink Tax" that exists in economic marketplaces (Ferelle, 2018), which encourages this behaviour. Second, a value-added tax (VAT) or sales tax is applied to the price of items or services that are especially used by women, making them less affordable for people who are less advantaged financially. Guittar (2022) mentioned in his research paper that pink tax is based on the essentialist thinking and further reify gender structures and inequality in society.

The study of the pink tax is important because it sheds light on a form of gender-based price discrimination that affects women's finances. The term "pink tax" refers to the phenomenon where products marketed towards women are priced higher than similar products marketed towards men. This can include anything from personal care items like razors and shampoo, to clothing and toys.

The significance of studying the pink tax is three fold. First, it highlights the ways in which gender inequality can manifest in seemingly innocuous ways. By analyzing the pricing of products marketed towards different genders, researchers can identify and raise awareness about gender-based discrimination and bias in the marketplace.

¹ Student, Sadhu Vaswani Institute of Management Studies for Girls, Pune

² Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune



Secondly, the pink tax has real-world implications for women's financial stability. Over the course of a lifetime, the extra cost of products marketed towards women can add up significantly, resulting in a "pink tax" that disproportionately affects women's wallets. This can be especially burdensome for low-income women, who may not have the resources to pay the extra cost for these products.

Thirdly, the beauty standards set by the media and television industry are so high that they are unattainable and unachievable. They lead women into believing they aren't pretty enough or beautiful enough and then market products that cater to that insecurity. The beauty industry feeds on women's insecurities. "Use this product, and you'll appear more attractive!" is the baseline of marketing expensive beauty products. Women have no choice but to use these expensive beauty products in order to hold a noteworthy position in society. In this way women pay a lot more than men in order to appear appreciable and yet end up feeling unhappy about themselves.

Pink Tax puts more price burden on female consumers. This leads to exploitation of women in the economic background. Since equal pay has not yet been completely practised, Pink Tax leads women to be ever dependent on men for even the most basic necessities. Further, increasing the economic burden on men and giving a reason for patriarchy to continue.

The goal of the current study is to investigate customers awareness and how they respond to the "Pink Tax".

LITERATURE REVIEW

Lafferty, M.(2019)

The pink tax is an extra amount that women pay daily as consumers for products and services that are similar or equal in merit to comparable men's products. Due to gendered services and products such as "BIC for Her Pens," women are being subjected to unfair price standards. The question "Why is the pink tax continuing to persist within society and contributing to gender price disparity?" will be further examined in this research. Economic gender discrimination is persisting within society due to the ingrained acceptance of cultural expectations of the genders. Cultural expectations are propagated by the media and directly marketed to females. Legislation within the U.S., both at the federal and state levels as well as abroad, outwardly accepts the gender-based discrimination of consumers. Current trade policy and the higher tariff rates of women's imported goods also help to explain the persistence of this discrimination. Process tracing is used in order to dissect the causation of the pink tax throughout history. Case analyses are used to represent the vast effects of pink sales. This research will provide awareness of a tax deemed 'hidden' within the daily lives of women.

Rapier, G. (2018, November 12)

Women pay more to get around New York City in order to avoid harassment, an NYU study has found. On average, women paid up to \$50 more than men, who paid no extra money to avoid similar incidents.

Joint Economic Committee: U.S. Congress. (2016, December)

Much has been written about women as wage-earners, particularly the fact that they typically earn less than men. In 2015, a woman with median earnings working full time, year-round earned only 80 percent of what her male counterpart earned. 1 This 20-percent difference is



widely known as the “gender pay gap.” For a typical female worker, the pay gap adds up to nearly \$10,500 over the course of a year and roughly \$500,000 over a lifetime.² This contributes to higher poverty rates among women. Research has shown that if women were paid the same as comparable men, the poverty rate among working women would be cut in half.

Pant S. (2021)

The prevalence of gender discrimination in modern-day societies can be found in countless socio-economic forms, from the gender pay gap to laws of inheritance and access to education. A lesser-known form of gender discrimination exists in prices of products and services, in the form of “pink tax”. The pink tax is the additional amount paid by female customers as compared to their male counterparts for nearly identical products and services. From personal care products and clothing to children’s toys and services, the pink tax is found across sectors. Through gendered marketing, corporates have conveniently managed to maximise profits without letting their customers learn about this discriminatory practice. In recent years, some corporations have consciously adopted gender-neutral pricing policies and have attempted to educate more consumers about the pink tax. Eliminating the pink tax is a step forward towards gender equality, which is also the 5th Sustainable Development Goal of the UN. Through this paper, the author aims to increase awareness about the pink tax and to initiate discussions about combating it.

Wakeman, J. (2020)

“Masculine” products come in black or navy blue packaging with boutique brand names like Bull Dog, Vikings Blade, and Rugged and Dapper. If the products have a fragrance, it’s a muskier scent. Meanwhile, “female” products are hard to miss: an explosion of pink and light purple, with an added dose of glitter. If scented, the fragrances are fruity and floral, like sweet pea and violet, apple blossom, and raspberry rain — whatever that is. While scent and color are perhaps the most obvious difference between products traditionally aimed at men and women, there’s another, subtler difference: the price tag. And it’s costing those who buy products aimed at women significantly more.

Megan Duesterhas, Liz Grauerholz, Rebecca Weichsel and Nicholas A. Guittar (2011)

Economic discrimination has been a major focus of gender research for the past several decades and such studies reveal a persistent gender wage gap. This study examines another aspect of the interaction between gender and the economy that has been largely ignored by social scientists—gender-based disparities in the cost of goods and services in the personal care industry. We examine prices charged for personal care products and services that are targeted toward women or men and find that women pay more than men for certain items and services. Our research suggests that although the differences are not uniform across types of services or products, women do tend to pay more than men for items such as deodorant, haircuts, and dry-cleaning. We suggest that such practices contribute to gender inequality by increasing women’s economic burden and reinforcing essentialist thinking about gender (i.e., that women and men are biologically different).

Bond, C. (2019, October 7)

The pink tax — an adorable name for an insidious practice — is something women deal with on a daily basis. You probably know that ladies pay more than men for a host of products and



services, from razors to dry cleaning. In fact, it's estimated that women pay an extra \$1,300 per year for essentially the exact same products as men.

RESEARCH METHODOLOGY

Descriptive Research design is adopted by the researcher. The research is based on primary data which was collected from respondents through survey method. Data was collected using a structured questionnaire in the form of a Goggle Form, which was send to the respondents using Email and Whats App. Primary data was processed using excel tools.

OBJECTIVES

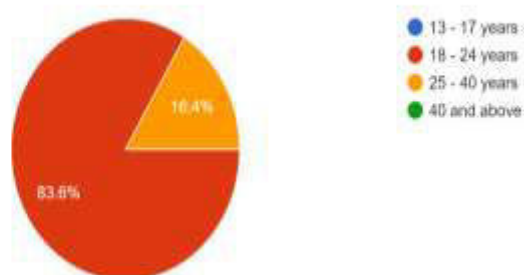
The objectives of the study are -

- To understand awareness regarding Pink Tax amongst female consumers
- To understand the response of female consumers towards pink tax

DATA ANALYSIS

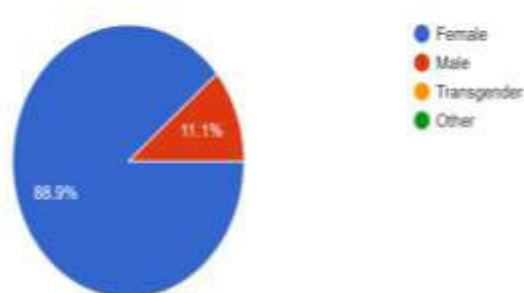
The investigator has taken a survey with the help of a questionnaire which is made on google form. There are a total 55 responded to the questionnaire which is explained in brief in this below.

2. Age
55 responses



83.6% (46 out of 55 respondents) are in the age group of 18-24 years and 16.4% (9 out of 55 respondents) are in the age group of 24-40 years.

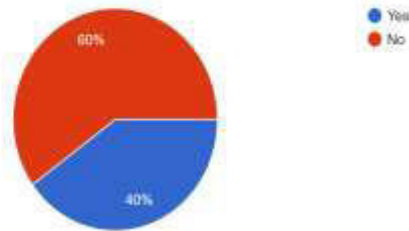
3. Gender
54 responses



88.9% (48 out of 54 respondents) are Female and 11.1% (6 out of 54 respondents) are male.

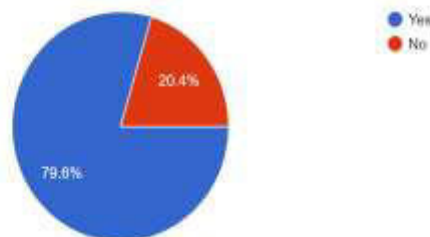


4. Are you aware of Pink Tax ?
55 responses



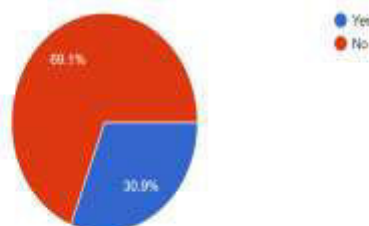
In this question the investigator wanted to know that they are aware of pink tax. 60% (33 out of 55 respondents) are aware and 40% (22 out of 55 respondents) are not aware. Its shows that 40% of the respondents are not aware of Pink Tax may have limited exposure to this issue, or may not have recognized the pattern of gender-based pricing in the products they purchase

5. Pink tax is a form of gender-based pricing discrimination that refers to an inherently invisible cost that women are paying for things that are specific... products targeted towards women (Pink products)?
54 responses



In this question the investigator wanted to know that they have noticed this increase in price for products targeted towards women (Pink products). 79.6% (43 out of 55 respondents) have noticed the price change and 20.4% (11 out of 55 respondents) have not.

6. Have you ever taken any action to avoid the pink tax, such as buying gender-neutral products or shopping in the men's section?
55 responses

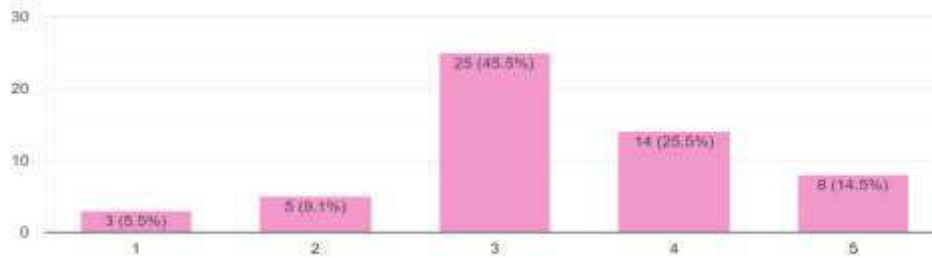


In this question the investigator wanted to know that they have ever taken any action to avoid the pink, such as gender-neutral products or shopping in the men's section 60.1% (38 out of 55 respondents) have and 30.9% (17 out of 55 respondents) have not.



7. Pink Tax is not only an economic burden on women but also on men.

55 responses



In this question the investigator wanted to understand what they think is pink tax is not only an economic burden on women but also on men. 45.5% (25 out of 55 respondents) are neutral about it, are neutral on it. 25.5% (14 out of 55 respondents) are agree, 14.5% (8 out of 55 respondents) are strongly agree, 9.1% (5 out of 55 respondents) are strongly disagree and 5.5% (3 out of 55 respondents) are disagree.

8. How much more are you willing to pay for a product marketed towards women than a similar product marketed towards men?

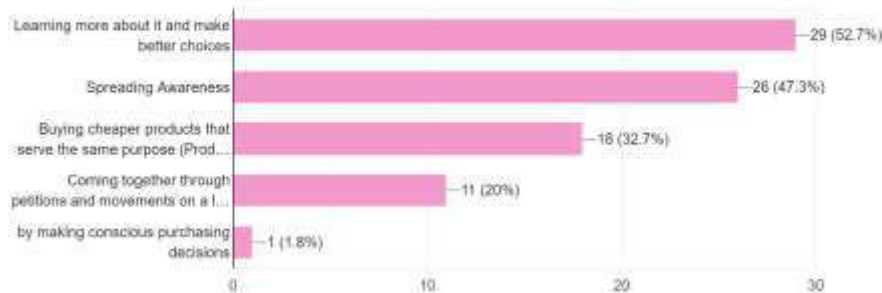
55 responses



In this question the investigator wanted to know how much more respondents are willing to pay for a product marketed towards women than a similar product marketed towards men. 58.2% (32 out of 55 respondents) are not willing to pay more for a product that are marketed towards women, 32.7% (18 out of 55 respondents) are willing to pay up to 10% more and 9.1% (5 out of 55 respondents) are willing to pay up to 25% more.

9. How are you willing to fight the Pink Tax?

55 responses



In this question the investigator asked them how they are willing to fight the Pink Tax. 52.7% (29 out of 55 respondents) are learning more about it and making better choices. 47.3% (26



out of 55 respondents) are spreading awareness, 32.7% (18 out of 55 respondents) are buying cheaper products that serve the same purpose (Products targeted towards men), 20% (11 out of 55 respondents) are Coming together through petitions and movements on a large scale and 1.8% (1 out of 55 respondents) are by making conscious purchasing decisions.

Q. Are there any other comments or observations you would like to make about the pink tax?

The comment suggests that the main reason for the Pink Tax is not gender discrimination, but rather that some products marketed to women are priced higher because women are willing to pay for them. However, this argument overlooks the fact that the Pink Tax is a symptom of deeper societal problems related to gender inequality, harmful gender stereotypes, and the gender pay gap.

By perpetuating the idea that women should pay more for products marketed towards them, society reinforces gender stereotypes and contributes to the gender pay gap. This phenomenon is not simply a matter of women being willing to pay more, but rather a result of businesses and marketers using gender as a way to increase profits.

In essence, the Pink Tax is a tool used to continue the patriarchy and uphold gender-based inequalities in society. It is not only an issue of unfair pricing but also a reflection of deeper systemic issues.

CONCLUSION

Based on the research, it is evident that the Pink Tax is a form of gender-based pricing discrimination that disproportionately affects women, leading to them paying more for products marketed towards them, often referred to as "Pink products." The Pink Tax not only causes an economic burden on women, but it also affects men who hold financial responsibility of women in their families.

Many individuals are not aware of the Pink Tax and very few have taken action to avoid it by buying gender-neutral products or shopping in the men's section. Therefore, there is a need for more awareness and advocacy to combat this issue.

The research also shows that there is not much willingness among individuals to pay more for products marketed towards women than similar products marketed towards men, indicating the importance of awareness regarding the role of marketing and branding in influencing consumer behavior.

To fight the Pink Tax, consumers can advocate for legislative and policy changes that prohibit gender-based pricing discrimination, support gender-neutral pricing, and promote consumer awareness of the issue.

Overall, the Pink Tax is a pervasive issue that requires collective action from individuals, organizations, and policymakers to promote fairness and equity in pricing practices.

REFERENCES

1. Lafferty, M.(2019). The Pink Tax: The Persistence of Gender Price Disparity. *Midwest Journal of Undergraduate Research*, Issue 11, pp 56 - 72.
2. Ferelle. (2012). Should companies be allowed to engage in gender-based pricing.



3. Ferrell, O. C., Kapelianis, D., Ferrell, L., & Rowland, L. (2018). Expectations and attitudes toward gender-based price discrimination. *Journal of Business Ethics*, 152, 1015-1032.
4. Guittar, S. G., Grauerholz, L., Kidder, E. N., Daye, S. D., & McLaughlin, M. (2022). Beyond the pink tax: gender-based pricing and differentiation of personal care products. *Gender Issues*, 39(1), 1-23.
5. Rapier, G. (2018). The 'pink tax' isn't just on tampons and deodorant—women pay more for transit too. *Business Insider*.
6. Pink tax Why Gender-based pricing hurts women's buying power. (2016). *Joint Economic Committee: U.S. Congress*.
7. Pant S. (2021). UnPinking Discrimination: Exploring the Pink Tax and its Implications. *International Journal of Policy Sciences and Law (IJPSL)* Volume 1, Issue 3.
8. Wakeman, J. (2020). Pink Tax: The Real Cost of Gender-Based Pricing. *Helathline.com*
9. Megan Duesterhas, Liz Grauerholz, Rebecca Weichsel and Nicholas A. Guittar (2011), "The Cost of Doing Femininity: Gendered Disparities in Pricing of Personal Care Products and Services," *Gender Issues*, Volume 28, Issue 4, pp. 175- 191.
10. California Civil Code, Division 1, Part 2, Section 51.6, "Gender Tax Repeal Act of 1995.
11. Bond, C. (2019, October 7). 7 Weird Examples Of How Women Pay More Than Men For The Same Products. *Huffpost.Com*.
12. Bourne, L. (2018, May 7). Companies That Are Saying No To The Pink Tax. *Glamour.Com*.
13. Horowitz, S. (2015, May 13). Is There Really A Pink Tax. *Fee.Org*.
14. Lafferty, M. (2019). The pink tax: the persistence of gender price disparity. *Midwest Journal of Undergraduate Research*, 11(2019), 56-72.

16. Study of Knowledge and Perception of Health Supplements Amongst Students in Pune City

The screenshot shows a web browser window displaying the UGC-CARE List search results. The browser address bar shows the URL: <https://ugccare.unipune.ac.in/Apps1/User/WebA/SearchList>. The page title is "UGC-CARE List". On the left, there is a navigation menu for Savitribai Phule Pune University with options for Home, UGC, and Search. The main content area shows the search results for the query "0973-0087".

You searched for "0973-0087". Total Journals : 1

Search:

Sl.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Rabindra Bharati Journal of Philosophy (print only)	Rabindra Bharati University	0973-0087	NA	from June-2019 to July-2023	Discontinued from July 2023

Showing 1 to 1 of 1 entries

Previous 1 Next

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Rabindra Bharati Journal of Philosophy

Peer Reviewed Refereed Journal

ISSN: 0973-0087

UGC Care Listed Journal

CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

STUDY OF KNOWLEDGE AND PERCEPTION OF HEALTH SUPPLEMENTS AMONGST STUDENTS IN PUNE CITY

Authored By

Harshali Bhalerao

Published in

Rabindra Bharati Journal of Philosophy

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RABINDRA BHARATI UNIVERSITY
NAAC ACCREDITED WITH GRADE 'A' IN 2016

STUDY OF KNOWLEDGE AND PERCEPTION OF HEALTH SUPPLEMENTS AMONGST STUDENTS IN PUNE CITY

Priya Vishwakarma

Sadhu Vaswani Institute of Management Studies for girls, Pune

Maria Waghmare

Sadhu Vaswani Institute of Management Studies for girls, Pune

Asst. Prof. Harshali Bhalerao

Sadhu Vaswani Institute of Management Studies for girls, Pune

ABSTRACT

Food health supplements are items that contain elements such as vitamins, minerals, amino acids, and other substances that are intended to complement the diet and support health. These products are also known as dietary supplements or nutritional supplements. They are available in a number of different formulations, including as pills, capsules, powders, and liquids. It is vital to keep in mind that food health supplements are not intended to take the place of a well-balanced diet. This is true despite the fact that they may offer a more convenient approach to obtain necessary nutrients. People who are deficient in specific nutrients or who have difficulty obtaining sufficient nutrients from food may benefit from taking supplements; however, supplements are not a suitable replacement for a healthy, well-balanced diet. Additionally, certain supplements may interfere with drugs or have negative effects; therefore, it is imperative to see a healthcare provider prior to taking any supplements, particularly if you have a medical condition, are pregnant or nursing, or are in any of these other life stages. Overall, food health supplements can be helpful for certain individuals; however, they should not be used as a primary source of nutrition, and it is essential to utilise them in a safe manner while consulting with a qualified medical professional before doing so.

Keywords: Health Supplement, Knowledge, Perception

INTRODUCTION

A health supplement is a product that contains vitamins, minerals, herbs, amino acids, enzymes, or other compounds that are designed to complement the diet of an individual and support overall health and wellness. A health supplement is sometimes referred to as a dietary supplement. Supplements to one's diet are available in various formats, including bars, capsules, tablets, liquids, and powders. They are typically intended for oral use and are available for purchase without a doctor's prescription through retail outlets. It is essential to remember that dietary supplements are not meant to replace a nutritious diet or medication that a qualified medical practitioner has recommended. Before beginning to use any new health supplements, you should make an appointment with your primary care physician or another qualified medical professional to see whether or not the supplements will meet your specific requirements in terms of both safety and efficacy.

In order to promote and improve one's general health and well-being, one can take dietary supplements. They could contain vitamins, minerals, medicinal herbs, amino acids, or any number of other things that are advantageous to one's health. Some individuals choose to take dietary supplements in order to address particular aspects of their health, such as enhancing their immune system, enhancing their digestion, reducing their levels of stress, or promoting better sleep. In addition, some people choose to use dietary supplements in order to boost their athletic performance or for assistance in reducing their body fat percentage. However, it is essential to remember that even if health supplements may be useful in the aforementioned scenarios, they are not a suitable substitute for maintaining a healthy diet and way of life. Before beginning to use any new health supplements, discussing your options with a qualified medical practitioner is essential, particularly if you are already managing any preexisting medical conditions or are taking any drugs. Supplements to a person's diet may be advised by many specialists in the medical field, including medical doctors, registered dietitians, chemists, and naturopathic doctors, according to the patient's specific health requirements and conditions. Because some dietary supplements may interact with drugs or potentially cause negative effects, it is essential to get the advice of a trained medical professional before beginning a new regimen of supplements. In addition, a healthcare expert can assist in determining which dietary supplements are acceptable and necessary for an individual's particular health objectives and requirements by thoroughly assessing the individual.

REVIEW OF LITERATURE

1. **Mason M And Scammon D. (2011)**, In the Research Titled "Unintended Consequences of Health Supplement Information Regulations: The Importance of Recognizing Consumer Motivations," Our research show that a single information treatment to help the average customer perform better in the market is unlikely to work equally for all consumers. Despite the inquiry and sample limitations, our findings suggest that more research is needed on how motivations affect information disclosure processing. Understanding consumer motives and unintended

policy effects is necessary for real consumer protection. Our research shows that regulatory efforts to balance market information may skew consumers. Policymakers and marketers must ask whether forced speech can effectively fight free speech.

2. **Verma S. (2009)**, In the Research Titled "An empirical analysis of consumer's attitude towards OTC health supplements in India," According to the Consumer Contact Programme, OTC health supplements deeply affect consumers. Health supplement awareness is also boosted by advertising. Many people view health supplements as medicine or energy pills. As a daily supplement, it needs promotion. OTC health supplements have a big industry, and different age groups have different preferences. Health supplements are unnecessary for under-30s. Thus, this group should be convinced of OTC health supplements. Women are less confident about health supplements than males. Men and women require health supplements in a changing society where both parents work. Thus, there is a huge chance to convert this untapped customer demographic into health supplement users. Existing health supplement users were satisfied, but Indians are price sensitive. Since many health supplement consumers are upper middle and upper class, differential pricing is needed to reach other sectors. With health supplement sales rising, every household will soon require them.
3. **Campbell A. (2010)**, In the Research Titled "Diabetes and Dietary Supplements," Discusses supplement timing. Patients may try a supplement for three months and quit it if blood glucose does not improve. Start patients with one supplement. It will be easier to identify the supplement causing benefits or adverse effects. Patients should stop taking supplements and inform their doctor if side effects occur. Ask about supplements, doses, and duration at each visit.
4. **Kokkinidou S et.al (2018)**, In the Research Titled "The Important Role of Carbohydrates in the Flavor, Function, and Formulation of Oral Nutritional Supplements," Most at-risk or malnourished patients need ONS products' protein, fat, and carbohydrate calories, not a health policy that reduces added sugars in the general population. Sugar, or added carbohydrate, is essential to ONS flavor, function, and formulation. Sugar adds taste, scent, color, and texture to ONS, which improves patient compliance. Finally, as prepared nutrition items, ONS employ carbohydrates for energy, preventing LBM and fatty tissue from being utilized. Healthcare providers must educate nutritionally at-risk patients and their families about ONS's additional sugars.
5. **Rafael M, et.al (2015)**, In the Research Titled "Scientific evidence for health effects attributed to the consumption of probiotics and prebiotics: an update for current perspectives and future challenges," Progress in understanding the role of the human microbiome in health and disease has boosted probiotics and prebiotics research. Thus, future research that establishes effective techniques to form healthy microbiota, which may aid human physiology and disease processes, will be encouraged and may be fruitful. Health claim limits for probiotics and prebiotics are enforced internationally, especially in Europe, despite considerable research showing their benefits(252). Thus, probiotic strains used for production and large-scale industrial processing should be adequately characterized and appropriate for each type of product in which they will be delivered, including high viability during storage and scientific evidence for specific health claims.
6. **Dwyer J, et.al (2014)**, In the Research Titled "Fortification and Health: Challenges and Opportunities," Fortification has successfully corrected nutrient deficits. The classic case of forced staple food fortification, and Fortification now prioritizes health over deficiency prevention. However, discretionary Fortification's long-term health effects are unknown. Fortification boosts most people's nutrition. Some countries lack basic dietary intake data, and nutrients with dark age and sex requirements complicate this. Any fortification program must accurately measure fortification vehicle intakes.
7. **Placentino U. (2021)**, In the Research Titled "The New Challenge of Sports Nutrition: Accepting Insect Food as Dietary Supplements in Professional Athletes," This study is unique in its utilization of professional athletes as a sample, instructive treatments, and evaluation of edible insect acceptability. Athletes endorsing edible insects could be a new way to educate people about nutrition and the environment. Workplace athletes may benefit from insect protein. Professional athletes are often well-liked; thus, they might be used to Information regarding edible insects' environmental and nutritional benefits, which will minimize food neophobia and disgust and increase acceptance.
8. **M. R. Ritchie (2007)**, In the Research Titled "Use of herbal supplements and nutritional supplements in the UK: what do we know about their pattern of usage," In conclusion, education, media, health-promoting programs, affluence, fashion trends, disease type, geography, and public opinion have all contributed to the rise in CAM, food supplements, and herbal supplements in the UK. More patients using CAM and dietary or herbal supplements want health care choices, and wealthy patients prefer CAM. Such patients may also be more likely to research and question authority. Some patients find CAM and vitamins safe and traditional, and drugs may be less appealing to such patients. These patients may be dissatisfied with drugs or medicines or prefer CAM's "low-tech, high-touch" approach to healing and health.

Data Analysis: Primary data of 34 respondents is collected and classified according to gender age and education. The classification is as follows.

Demographic factor	Categories	Number of respondents	Percent
Gender	Male	17	50.0
	Female	17	50.0
Age	16 - 20	3	8.8
	21 - 25	29	85.3
	26 - 30	2	5.9
Highest Education	Under-graduation	5	14.7
	Graduation	17	50.0
	Post- Graduation	12	35.3

Above table indicates that there is total 34 respondents, for age group 17 respondents are male while remaining 17 are female.

For Age group of respondents, 3 respondents are aged between 16-20 years while 29 respondents are aged between 21-25 years and the remaining 2 respondents responded between 26-30 years.

For the Education of respondents, 5 respondents are undergraduate while 17 are graduated and the remaining 12 respondents are post-graduate.

Perception about Health Supplement:

The frequency distribution of respondents according to Perception, is as given below.

Perception	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The labels on dietary supplements are helpful to understand if it is suitable for me	6	4	8	12	4
The source from where I receive the information about my dietary supplement is reliable	4	8	12	6	4
The supplements that I take are effective in improving my health	10	4	4	12	4
The supplements that I take have enhanced my health considerably	8	3	10	10	3
I understand which supplements are suited for my health	5	9	7	9	4
Dietary supplements can affect my health in a negative way	5	10	9	9	1
Dietary supplements can be used as a substitute of a good meal	5	7	8	12	2
Dietary supplements can cancel out the bad effects of habits like smoking, drinking, etc	6	7	8	10	3

KNOWLEDGE OF HEALTH SUPPLEMENT

The frequency distribution of respondents according to Knowledge along with its bar graph is as given below.

Knowledge	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Dietary supplements are safe to take as they come from natural sources	10	4	7	11	2
The more protein supplement you take the more muscle you build	7	8	7	10	2
Dietary supplements are safe to use as they are clinically tested	5	5	14	9	1
Ingredients in the dietary supplements are regulated by FDA	4	5	7	16	2
Dietary supplements contents are not standardized among manufacturers	4	5	14	9	2
I purchase Dietary Supplements frequently	4	8	6	13	3
I spend more than 2000 Rs a month on my dietary supplements	8	6	9	8	3
I read the labels carefully before purchasing the dietary supplements	4	7	7	11	5
I do not take dietary supplements as they are very costly	8	5	11	9	1
I am ready to pay extra for the dietary supplements as they are important for my health	9	6	11	6	2

Independent variable: Knowledge (X)

Dependent variable: Perception (Y)

Descriptive

Descriptive Statistics			
	Mean	Std. Deviation	N
Perception	23.41	5.95	34
Knowledge	32.12	7.46	34

The above table indicates that the mean score of knowledge is 32.12 percent and the mean score of perception about health supplements is 23.41 percent.

Table2: Table showing Correlations between Perception & Knowledge

Correlations			
		Perception	Knowledge
Pearson Correlation	Perception	1.000	.751
	Knowledge	.751	1.000
P value (1-tailed)	Perception		.000
	Knowledge	.000	
N	Perception	34	34
	Knowledge	34	34

Correlation coefficient = 0.751 & p value = 0.000. Hence the correlation between Perception & Knowledge is significant.

Since coefficient of determination i.e. R square = 0.565, 56.5% of the total variation in the dependent variable is explained by independent variables in model 1.

Table showing results of ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	P value
1	Regression	660.833	1	660.833	41.513	.000 ^b
	Residual	509.402	32	15.919		
	Total	1170.235	33			
a. Dependent Variable: Perception						
b. Predictors: (Constant), Knowledge						

Since F = 41.513 & p value = 0.00 < 0.05, there is strong evidence to conclude that the regression model 1 is significant.

Table showing the regression coefficients & T stat

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	P value
		B	Std. Error	Beta		
1	(Constant)	4.141	3.068		1.349	.187
	Knowledge	.600	.093	.751	6.443	.000
a. Dependent Variable: Perception						

The regression model for Perception (Y) on Knowledge (X) is given as

$$Y = 4.141 + 0.600 * X$$

Here the intercept is 4.141 implies that the initial Perception would be 4.141 when the independent variable value is zero.

The slope of variable Knowledge (X) is 0.600 implies that the Perception would be increased by 0.600 per unit increase in variable Knowledge (X).

FINDINGS

The following are some of the findings of the research.

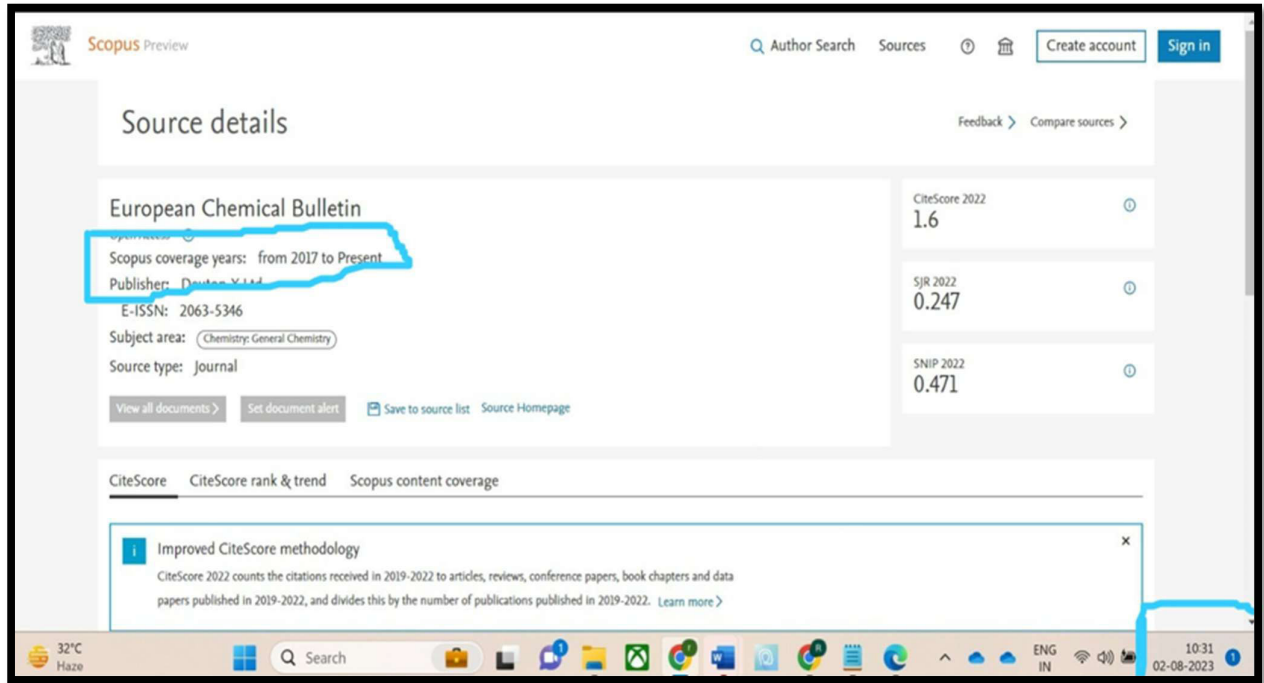
1. There is the potential for interactions between health supplements, prescription drugs, other dietary supplements, and even certain medical conditions. Therefore, having understanding about health supplements can assist you in avoiding interactions that could be potentially harmful and in avoiding side effects that could be detrimental.
2. The ability to choose health supplements that are successful in treating the health difficulties can be greatly improved by level of familiarity with the components of those supplements, specifically the amounts of each component.

3. Understanding the quality standards and production methods of health supplements will help you recognise reputable brands of health supplements and steer clear of low-quality or fake items.
4. The regulations that apply to dietary supplements are distinct from those that apply to pharmaceuticals, and not every supplement available for purchase is safe or effective. If a person is aware of the regulatory landscape of health supplements, you will be better able to protect their health and make decisions that align with their best interests. In general, knowing various health supplements is necessary to make informed judgments regarding one's own health and wellness. It can assist you in selecting products that are risk-free, efficient, and of high quality, so assisting you in avoiding potential dangers and problems.

REFERENCES

1. Mason, M. J., & Scammon, D. L. (2011). Unintended consequences of health supplement information regulations: Recognizing consumer motivations is important. *Journal of Consumer Affairs*, 45(2), 201–223. <https://doi.org/10.1111/j.1745-6606.2011.01200.x>
2. Verma, S. (2009). An empirical analysis of consumer's attitude towards OTC health supplements in India. *International Journal of Indian Culture and Business Management*, 2(1), 1. <https://doi.org/10.1504/ijicbm.2009.021594>
3. Campbell, A. P. (2010). Diabetes and dietary supplements. *Clinical Diabetes*, 28(1), 35–39. <https://doi.org/10.2337/diaclin.28.1.35>
4. Kokkinidou, S., Peterson, D., Bloch, T., & Bronston, A. (2018). The important role of carbohydrates in the flavor, function, and formulation of oral nutritional supplements. *Nutrients*, 10(6). <https://doi.org/10.3390/nu10060742>
5. Martinez, R. C. R., Bedani, R., & Saad, S. M. I. (2015). Scientific evidence for health effects attributed to the consumption of probiotics and prebiotics: An update for current perspectives and future challenges. *British Journal of Nutrition*, 114(12), 1993–2015. <https://doi.org/10.1017/S0007114515003864>
6. Dwyer, J. T., Wiemer, K. L., Dary, O., Keen, C. L., King, J. C., Miller, K. B., Philbert, M. A., Tarasuk, V., Taylor, C. L., Gaine, P. C., Jarvis, A. B., & Bailey, R. L. (2015). Fortification and Health: Challenges and Opportunities 1 – 4. 124–131. <https://doi.org/10.3945/an.114.007443.micronutrient>
7. Placentino, U., Sogari, G., Viscecchia, R., De Devitiis, B., & Monacis, L. (2021). The new challenge of sports nutrition: Accepting insect food as dietary supplements in professional athletes. *Foods*, 10(5). <https://doi.org/10.3390/foods10051117>
8. Ritchie, M. R. (2007). Use of herbal supplements and nutritional supplements in the UK: What do we know about their pattern of usage? *Proceedings of the Nutrition Society*, 66(4), 479–482. <https://doi.org/10.1017/S0029665107005794>

17. Prediction of Students' Performance for Placement Using a Clustering Technique



The screenshot shows the Scopus Preview interface for the source 'European Chemical Bulletin'. The page includes a search bar, navigation links, and a sidebar with metrics. A blue box highlights the 'Scopus coverage years: from 2017 to Present' text. Another blue box highlights a notification about 'Improved CiteScore methodology' at the bottom of the page.

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E-ISSN: 2063-5346

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CiteScore 2022	1.6
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PREDICTION OF STUDENTS' PERFORMANCE FOR PLACEMENT USING A CLUSTERING TECHNIQUE

Dr Kalpana Salunkhe¹, Dr Madhuri Prashant Pant²

Abstract

To make administrative decisions and deliver high-quality education, it is essential to analyze student academic performance in educational institutions. The amount of information relating to educational institutions is growing quickly. The management will be able to make academic decisions with the use of machine learning from these vast volumes of data. Predicting a student's academic success early on in their course will assist academia in identifying the merit students and in concentrating more attention on creating remedial programmes for the poorer students to boost their performance. This also helps in their placements. Placements are a very crucial point for all academic institutions. In this paper, the K Means clustering technique is used for categorization of students' data.

Keywords – Machine learning, analysis, K-Means algorithm, Cluster, students' data, elbow method, students' data, prediction, centroid.

¹*Sadhu Vaswani Institute of Management Studies for Girls, Pune, India, Salunkhekalpana96@gmail.com

²Vishwakarma University, Pune, Department of Computer Science

***Corresponding Author:** Dr Madhuri Pant

*Vishwakarma University, Department of Computer Science, Pune, India, pantmadhuri123@gmail.com

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1. Introduction

Most academics utilize classification or clustering algorithms to identify implicit patterns in educational data.

Supervisory and unsupervisory strategies are used in data mining. The use of supervisory approach is advantageous because the data already have established class labels. Contrarily, unsupervised methods do not have labeled data. Researchers took interest in clustering approaches. Market research, pattern recognition, data analysis, image processing, academic performance, and intrusion detection are just a few of the numerous applications where clustering is widely employed. [2]

Clustering or cluster analysis is a machine learning technique that groups an unlabeled data set. It can be defined as: "A method of grouping data points into different clusters consisting of similar data points." Objects with possible similarities are divided into a group that has less or no similarity to another group. It does this by looking for some similar pattern. In unlabeled data sets, such as shape, size, color, behavior, etc., and divides them according to the presence and absence of similar patterns. It is an unsupervised learning method, so the algorithm is unsupervised. It processes an unlabeled dataset. After applying this clustering method, each cluster or group is assigned a cluster ID. Machine Learning system can use this identifier to simplify the processing of large and complex data sets. [3]

If you have a bunch of anonymous data, it's very likely that you're using some sort of unsupervised learning algorithm. Clusters are especially useful when you're exploring data you know nothing about. It may take some time to figure out which type of clustering algorithm works best, but once you do, you'll gain valuable insight into your data. You may find relationships you never thought possible.

2. K-means Clustering Algorithm

It is the most used clustering algorithm. It is a centroid based algorithm and the simplest unsupervised learning algorithm. This algorithm tries to minimize the variance of the data points in a cluster. This is also how unsupervised machine learning is introduced to most people. K-means is best used for smaller data sets because it iterates over all data points. This means that it takes more time to classify the data points if there are many of them in the dataset.

2.1 K-Means Clustering Algorithm Implementation Method

K-Means is an unsupervised approach that is used to cluster data objects. The K-Means clustering algorithm divides the "n" data objects into "k" clusters (groups), with each data object assigned to the cluster with the closest mean. Each group's data items are extremely cohesive, while the objects in the other group are disjunct. Using the sum of squares, the K Means algorithm generates "k" different groups of elements. The algorithm's input parameter is the number of centroids. The distance between each element and its centroid is then calculated. The estimated distances between a data element and each centroid are compared, and the data element is assigned to the nearest centroid. As a result, each data element is assigned to one of the centroids. Initially, the unsupervised algorithm used for clustering data objects is K-Means. The K Means clustering algorithm divides "n" data objects into "k" clusters (groups), with each data object assigned to the cluster with the closest mean. Each group's data items are extremely cohesive, whereas the objects in the other group are disjunct.

The K-means algorithm uses the sum of squares to generate "k" different groups of elements. The number of centroids serves as the algorithm's input parameter. After that, the distance between each element and its centroid is computed. The estimated distances between a data element and each centroid are compared, and the data element is assigned to the closest centroid. As a result, each data element is allocated to a centroid. Initially. [7]

First, K clusters are constructed by allocating data elements to their respective centroids. The centroid of allocated data elements in each cluster is then recalculated. Calculate the distance between each data element with the new centroids once more and reassign the data element to the nearest centroid. This process is repeated until no data element is assigned to a new centroid, which means that the centroids of "n-1" iterations are equal to the centroids of "n" iterations.

2.2 In K-means clustering, the distance measure is Euclidean distance.

Assume the elements are:

$X = (x_1, x_2, x_3, \dots)$ and $Y = (y_1, y_2, y_3, \dots)$.

$$D(X, Y) = \sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2 + \dots + (x_n - y_n)^2} \quad \text{eq. (1) [6][1]}$$

The distance between each actual or observed data point and the centroid is computed using eq. (1). The data element is then assigned to the

centroid.

with the shortest distance. The mean of all data points in that group is the centroid. Each centroid with a set of data components is referred to as a cluster.

2.3 K-means Algorithm

1. Accept as input values for the number of clusters to which data is arranged.
2. Create the first K clusters.
 - a. Select the first k instances; otherwise.
 - b. Select a random sample of k elements.
3. Determine the arithmetic means of each cluster in the dataset.
4. K-means assigns each record in the dataset to one of the initial clusters.
 - a. Using a distance measure (e.g., Euclidean distance), each record is assigned to the nearest cluster.
 - b. K-means reassigns each record in the dataset to the most similar cluster and recalculates the arithmetic mean of all clusters in the dataset.

2.4 K-Means Clustering Algorithm Implementation Using Python

Various committees, such as the NBA (National Board of Accreditation), NAAC (National Assessment and Accreditation Council) place a high value on students' academic performance. Various organizations that inspect colleges, like management institutions, place a high value on students' academic performance. The dataset for the experiment was collected from the college's Administration Department. The data set is initially normalized by manual verification. Below steps are taken by researcher to cluster the students' data.

Step 1

The researcher had considered the data of 180 students of MBA and MCA. Following is the code snippet to visualize the data using python.

```
import numpy as np
import pandas as pd
df=pd.read_csv('student1_clustering_modified.csv')
df.head()
shape of data is (180, 2) Output
  cgpa iq
0  5.13 88
1  5.90 113
2  8.36 93
3  8.27 97
4  5.45 110
..  ... ..
175  8.46 98
176  8.94 115
```

```
177  5.87 108178 4.99 88
179  8.91 115
[180 rows x 2 columns]
```

Step 2

To determine the number of clusters to be formed, the Elbow method is used. In the elbow method, we calculate WCSS (Cluster Sum of Square). WCSS is the list of the square roots of sum of squares between each data value and the centroid value.

Here the researcher has considered the data of 180 students. Which is nothing but a student clustering.csv. For clustering purposes, we will use pyplot library. Library SKlearn cluster contains the KMeans algorithm.

To calculate the value for square root of sum of all squares of the difference between the actual value and centroid value for both the cgpa and iq, we will run the loop for all data. Here we need to create the km object and we pass the dataset as df.

Now the entire dataset is trained and now we can use one attribute km i e 'inertia_' to insert values into list wcss. wcss= km.inertia_

Python code for above is as below:

```
from sklearn.cluster import KMeans
wcss= []
#empty list
for i in range (1,11):
km=KMeans(n_clusters=i)
km.fit_predict(df)
wcss.append(km.inertia_)
wcss
#list containing square root of squares of variance.
Output
[27422.967222222218,
3837.5269999999996,
2129.7680419177113,
620.5295666996047,
476.4367059085609,
365.298649636924,
290.4253176772653,
220.86491930359497,
183.61208650311045,
165.80745936149512]
```

The above list shows that data is largest at top and rapidly decreases towards the bottom. import matplotlib.pyplot as plt
plt. Plot (range (1,11), wcss)
If we plot WCSS with k (no. of clusters), the curve looks like an elbow.

Output Fig 1: Elbow Curve

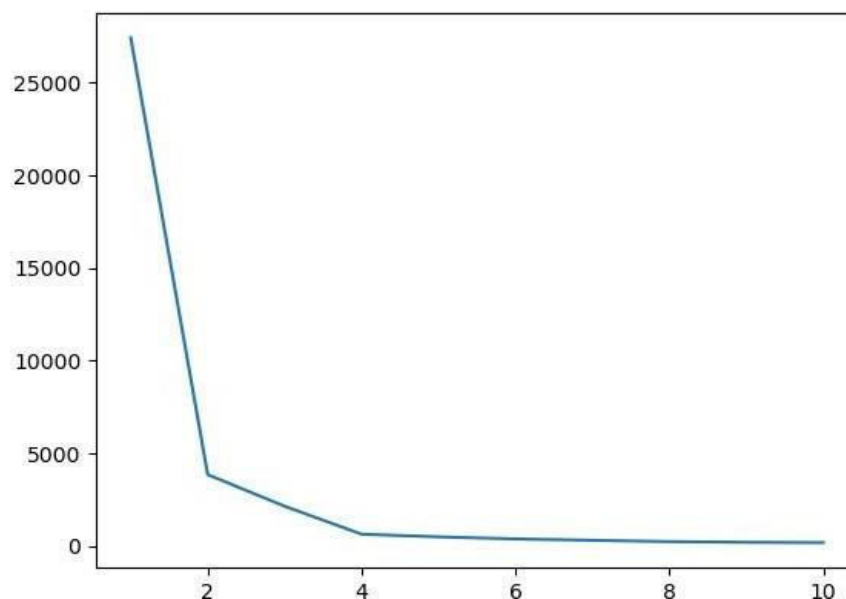


Fig 1: Elbow Curve

As the number of clusters increases, the value of 'wcss' starts to decrease. The 'wcss' value is the largest when $K = 2.5$. Analyzing the Graph

We see that the graph changes rapidly at some point, thus forming an elbow shape. From this point the graph moves almost parallel to the X-axis. The value of K corresponding to this point is the optimal value of K, that is, the optimal number of clusters. From the above graph it is seen that optimal value of $k = 4$.

Now we will create one numpy array to store the cluster wise data points of students' cgpa and iq. Python code snippet is-

```
X=df.iloc[:].values km=KMeans(n_clusters=4)
y_means=km.fit_predict(X)
```

When the value of `y_means` is printed, it shows the output below. It is nothing but the data points in a cluster `y_means`. Output-

```
array ([2, 3, 0, 0, 3, 3, 0, 1, 3, 0, 2, 3, 0, 2, 3, 0, 3,
0, 3, 3, 0, 2,
0, 2, 2, 0, 2, 1, 0, 3, 1, 3, 1, 3, 0, 0, 1, 3, 2, 3, 2, 0,
0, 2,
1, 1, 0, 3, 1, 3, 2, 2, 1, 0, 1, 3, 3, 1, 3, 1, 3, 0, 0, 1,
2, 1,
0, 2, 3, 0, 3, 1, 0, 2, 3, 1, 3, 1, 2, 0, 0, 1, 3, 2, 1, 2,
1, 3,
1, 3, 1, 1, 0, 2, 0, 0, 1, 0, 2, 1, 3, 2, 2, 1, 2, 2, 0, 2,
1, 1,
0, 1, 3, 3, 0, 1, 0, 3, 1, 2, 2, 3, 0, 1, 0, 2, 0, 3, 2, 0,
0, 3,
```

```
2, 2, 3, 1, 3, 2, 0, 0, 0, 2, 3, 2, 2, 1, 2, 1, 3, 2, 1, 2,
1, 1,
2, 0, 3, 1, 3, 0, 2, 1, 3, 0, 1, 2, 3, 2, 2, 1, 1, 3, 1, 2,
2, 0,
1, 3, 2, 1])
```

Cluster no 1 data points are printed with the code snippet:

```
X[y_means==1,1]
```

Output

```
array ([115., 119., 117., 118., 118., 116., 116., 119.,
116., 115., 115.,
117., 118., 113., 116., 118., 117., 121., 116., 117.,
117., 117.,
114., 118., 118., 119., 118., 118., 117., 118., 117.,
119., 118.,
118., 117., 117., 117., 116., 118., 119., 117., 119.,
120., 117., 115., 115.]
```

Now we will take all four cluster's data points with below code snippet:

```
Python code: plt.title("Cumulative Grade Point
Average VS Intelligence Quotient")
plt.xlabel("Intelligence Quotient")
plt.ylabel("Cumulative Grade Point Average")
plt.scatter(X[y_means==0,0],X[y_means==0,1],co
lor="blue")
plt.scatter(X[y_means==1,0],X[y_means==1,1],co
lor="green")
plt.scatter(X[y_means==2,0],X[y_means==2,1],co
lor="red")
plt.scatter(X[y_means==3,0],X[y_means==3,1],co
lor="orange") Output.
```

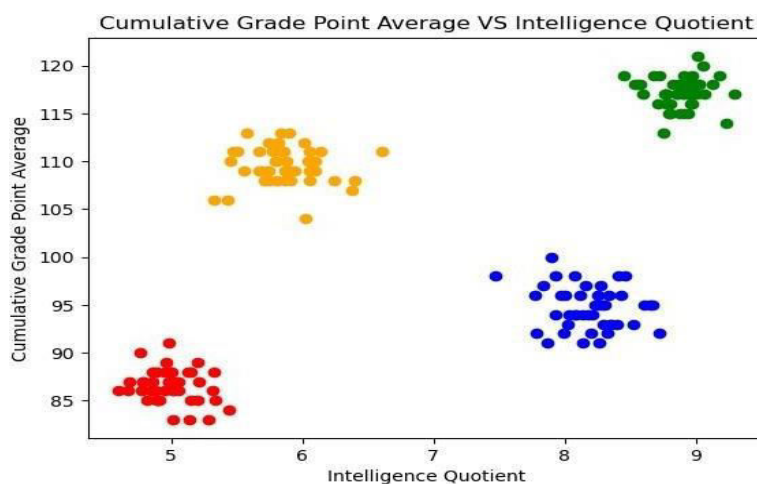


Fig clusters

2.6 Plot Predictions

Green colored cluster 0, students' data indicates that the students are intelligent and their CGPA is also good. So, placement officer need not make many efforts to place them. Much guidance is not required for such students. Such students get placed with the least effort.

If we focus on the blue colored cluster 1, it indicates that these students are hard workers. These students are not very intelligent, but they have more CGPA due to their sincere nature. Such students also do not require much guidance while making their placement.

Orange colored cluster 2 includes the students whose IQ is more than enough but their CGPA is less. Such students are not sincere. They just chill out. They are in a relaxed mood. So, placement officer has to motivate them before their examination. They are not sincere. Some assessment type of efforts must be get done from such students. They may be asked to attempt extra assignments, tutorials, presentations, group discussions, so that their interest in studies can be increased.

Red colored cluster 3 includes students' data whose 'cgpa' and 'iq' both are less. So, placement officer has to make many efforts on these students to increase CGPA also to increase their course related knowledge. Extra efforts like coaching classes, notes, practice tests can be conducted for such students to bring them into the mainstream of placement.

3. Conclusions

In this study, we used the k-means clustering technique to analyze student data and forecast the placements of students whose academic performance is bad, average, or good, excellent. If

teachers take adequate measures to enhance students' academic performance from bad or average to good, then placements can be increased. This simple analysis study demonstrates that a suitable machine learning technique on student data may be efficiently employed for hidden knowledge./ Information, which can be used for decision making by an educational institution's management and academic department. We hope that the information obtained because of the machine learning and data clustering techniques will be useful.

REFERENCES

1. A Seetharam Nagesh, Ch V S Satyamurty, Application of Clustering algorithm for Analysis of Student Academic Performance, *International Journal for Computer and Engineering*, Vol 6 Issue 1, E ISSN:2347-2693.
2. Dr Kajal Rai, Students Placement Prediction Using Machine Learning Algorithms, *South Asia Journal of Multidisciplinary Studies SAJMS*, Vol 8, Issue 5.
3. Er. Arpit Gupta, Er. Ankit Gupta 2Er. Amit Mishra Faculty of Engineering and Technology (IT department), Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, *International Journal of Advance Technology & Engineering Research (IJATER) ISSN NO: 2250-3536 Vol. 1, Issue 1, November 2011*.
4. Tashfin Ansari, Dr. Almas Siddiqui, Awasthi G. K, Clustering Analysis using an Unsupervised Machine Learning Method, *International Journal of Scientific Research in Computer Science Engineering and Information Technology*, DOI:10.32628/CSEIT12173174.
5. Camila Maione a, Donald R. Nelson b, Rommel Melgaço, Barbosa, Research on social data by means of cluster analysis. *Applied Computing and Informatics Volume 15, Issue 2, July 2019, Pages 153-162*.

6. Oyelade, O. J, Obagbuwa, I. C, Oladipupo, O. O, Application of k-Means Clustering algorithm for prediction of Students' Academic Performance, *International Journal of Computer Science, and Information Security (IJCSIS)*, Vol. 7, Issue No. 1, 2010.
7. Sudhir Singh, Nasib Singh Gill, Analysis and Study Of K-Means Clustering Algorithm, *International Journal of Engineering Research & Technology (IJERT)*, ISSN: 2278-0181, Vol. 2 Issue 7, July – 2013.

18. Information Systems Audit Index for Academic Institution

The screenshot shows the UGC-CARE List search results page. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/SearchList>. The page title is "UGC-CARE List". A search bar contains the query "0025-0422". The results show 1 journal entry.

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Journal of the Maharaja Sayajirao University of Baroda	Maharaja Sayajirao University of Baroda	0025-0422	NA	from June-2019 to Present	View

Showing 1 to 1 of 1 entries

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The screenshot shows the UGC-CARE List journal details page. The URL is <https://ugccare.unipune.ac.in/Apps1/User/WebA/ViewDetails?journalId=101000039&flag=Search>. The page title is "UGC-CARE List". The details are as follows:

Journal Details	
Journal Title (in English Language)	Journal of the Maharaja Sayajirao University of Baroda
Publication Language	English
Publisher	Maharaja Sayajirao University of Baroda
ISSN	0025-0422
E-ISSN	NA
Discipline	Science
Subject	Agricultural and Biological Sciences (all) , Biochemistry, Genetics and Molecular Biology (all) , Engineering (all) , Mathematics (all)
Focus Subject	General Agricultural and Biological Sciences , General Biochemistry, Genetics and Molecular Biology , General Engineering , General Mathematics
UGC-CARE coverage years	from June-2019 to Present

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INFORMATION SYSTEMS AUDIT INDEX FOR ACADEMIC INSTITUTION

Authored by

Dr. Reshma Kadam
Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls

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Journal MSU of Baroda

Dr. Reshma Kadam

Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls

Dr. Parmod Kadam

Sr. Information Security Analyst, Rabbit and tortoise technology Solutions, Pune

Abstract:

Academic institutions rely heavily on information systems to carry out their daily activities. With the increased reliance on information technology, it is important to ensure that the information systems are secure and reliable. An information systems audit (ISA) is a critical process that evaluates the security and reliability of information systems. This paper presents an information systems audit index for academic institutions. The index covers six key areas: governance, management, security, availability, privacy, and compliance. Each area is broken down into specific criteria that can be used to evaluate the effectiveness of the information systems. The index can be used by academic institutions to assess their information systems and identify areas for improvement.

Keywords: Information Systems Audit, Information Systems Audit Index, ISA, ISA Index.

Introduction:

Academic institutions rely on information systems to carry out their daily activities. These systems are used for student registration, course management, financial management, and many other critical functions. With the increasing reliance on information technology, it is important to ensure that the information systems are secure and reliable. Information systems audit (ISA) is a critical process that evaluates the security and reliability of information systems. The purpose of this paper is to present an ISA index for academic institutions.

Information System Audit Index (ISA Index):



Fig. Key areas of Information Systems Audit Index

The ISA index for academic institutions covers six key areas: governance, management, security, availability, privacy, and compliance. Each area is broken down into specific criteria that can be used to evaluate the effectiveness of the information systems.

1. Governance

Governance refers to the policies, procedures, and processes that guide the management of information systems. The following criteria can be used to evaluate governance:

- a. Information systems policies and procedures are in place.
- b. The policies and procedures are regularly reviewed and updated.
- c. The policies and procedures are communicated to all relevant stakeholders.
- d. There is a formal process for approving changes to the information systems.

2. Management

Management refers to the processes and procedures used to manage the information systems. The following criteria can be used to evaluate management:

- a. There is a formal process for managing information systems.
- b. There is a process for identifying and managing risks.
- c. There is a process for identifying and managing incidents.
- d. There is a process for managing third-party suppliers.

3. Security

Security refers to the measures used to protect the information systems from unauthorized access, use, disclosure, disruption, modification, or destruction. The following criteria can be used to evaluate security:

- a. Information systems are protected by firewalls and intrusion detection systems.
- b. Access to information systems is restricted to authorized users.
- c. Information systems are regularly scanned for vulnerabilities.
- d. There is a process for managing and responding to security incidents.

4. Availability

Availability refers to the ability of the information systems to be available when needed. The following criteria can be used to evaluate availability:

- a. The information systems are available 24/7.
- b. There is a process for managing and responding to system failures.
- c. There is a process for managing and responding to disaster recovery situations.
- d. The information systems are regularly tested to ensure availability.

5. Privacy

Privacy refers to the protection of personal information. The following criteria can be used to evaluate privacy:

- a. Personal information is collected and used in accordance with relevant privacy laws and regulations.
- b. Personal information is protected by appropriate security measures.
- c. There is a process for managing and responding to privacy incidents.
- d. Privacy policies and procedures are regularly reviewed and updated.

6. Compliance

Compliance refers to the extent to which the information systems comply with relevant laws, regulations, and standards. The following criteria can be used to evaluate compliance:

- a. The information systems comply with relevant data protection laws and regulations.
- b. The information systems comply with relevant industry standards.
- c. The information systems comply with relevant contractual requirements.
- d. There is a process for managing and responding to compliance incidents.

Checklist for Information System Audit Index (ISA Index):

A checklist to calculate the Information Systems Audit Index for academic institutions is a tool that enables an evaluator to assess the effectiveness of the information systems in place and identify areas of improvement. The checklist covers six key areas as mentioned above: governance, management, security, availability, privacy, and compliance.

Each area has a series of questions that the evaluator needs to answer. The questions are designed to determine whether the institution has policies, procedures, and processes in place that align with best practices in information systems management.

Once the evaluator has answered all the questions, they assign a score of 1-5 for each question (1 being low and 5 being high). The scores are then averaged for each area, and the overall Information Systems Audit Index score is calculated by averaging the scores for each area.

Sr. No.	Key Area	Checklist
1	Governance	<ul style="list-style-type: none">• Does the institution have an IT governance structure in place?• Are there policies and procedures for managing IT systems?• Are IT decisions aligned with the institution's strategic objectives?

		<ul style="list-style-type: none"> • Is there a process for monitoring and reporting on IT performance?
2	Management	<ul style="list-style-type: none"> • Is there a process for managing IT projects? • Are IT resources managed effectively? • Is there a process for managing IT vendors and contracts? • Are IT risks identified and managed?
3	Security	<ul style="list-style-type: none"> • Is there a formal information security program in place? • Are security policies and procedures documented and communicated? • Are access controls in place to protect information? • Is there a process for managing security incidents?
4	Availability	<ul style="list-style-type: none"> • Is there a formal IT service management process in place? • Are there procedures for ensuring availability of critical systems? • Is there a process for managing system failures and disruptions? • Are there procedures for disaster recovery and business continuity?
5	Privacy	<ul style="list-style-type: none"> • Are there procedures for protecting personal information? • Are privacy policies and procedures documented and communicated? • Is there a process for managing privacy incidents? • Are there procedures for managing personal data breaches?
6	Compliance	<ul style="list-style-type: none"> • Is the institution compliant with relevant laws and regulations? • Is there a process for monitoring and reporting on compliance? • Are there procedures for managing compliance incidents? • Is there a process for managing IT audits and assessments?
<p>Scoring</p> <ul style="list-style-type: none"> • Assign a score of 1-5 for each question (1=low, 5=high) • Calculate the average score for each area (governance, management, security, availability, privacy, and compliance) • Calculate the overall Information Systems Audit Index score by averaging the scores for each area. 		

Table: Checklist for Information System Audit Index (ISA Index)

Conclusion:

In conclusion, using a checklist to calculate the Information Systems Audit Index for academic institutions is a valuable tool for assessing the effectiveness of an institution's information systems. The checklist covers six key areas of governance, management, security, availability, privacy, and compliance, and enables evaluators to identify areas for improvement.

By using the checklist, academic institutions can ensure that their information systems are aligned with best practices in information systems management, and that they are compliant with relevant laws and regulations. The results of the evaluation can be used to develop an action plan to address any deficiencies or weaknesses in the information systems, which can lead to improved performance and better outcomes for the institution.

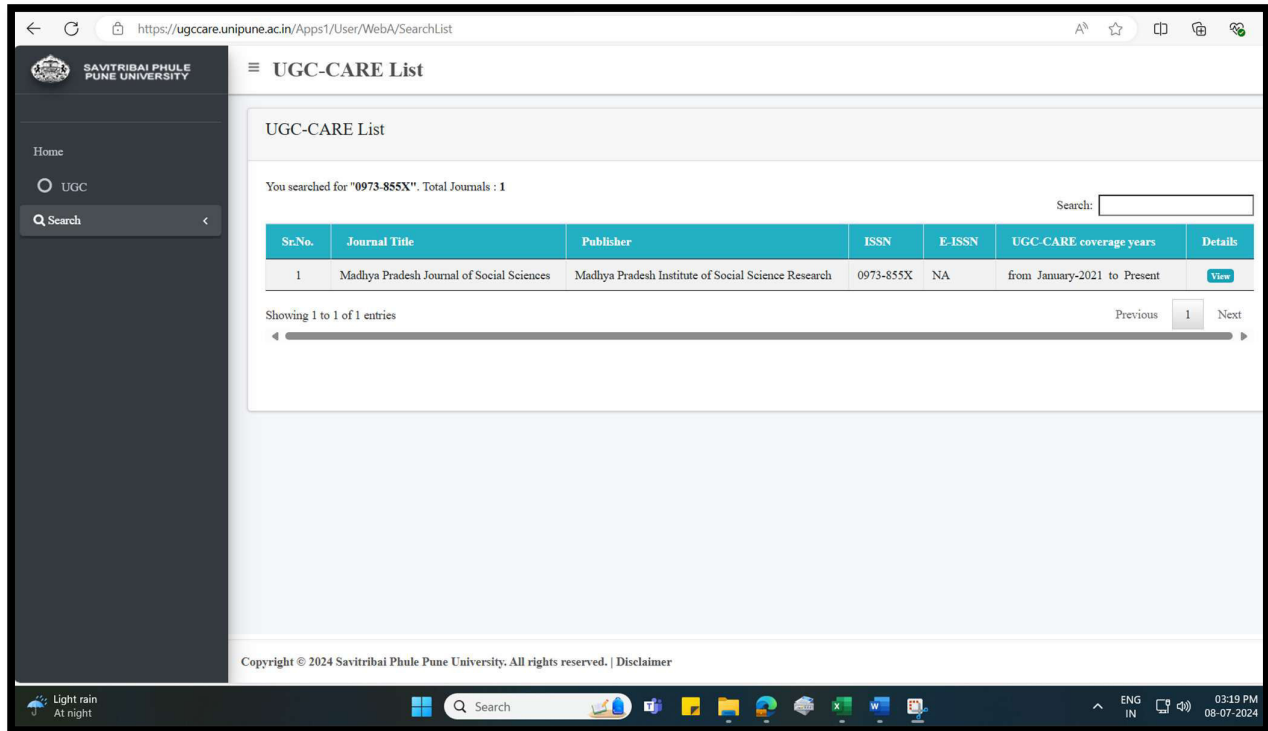
Overall, the checklist to calculate the Information Systems Audit Index is a valuable tool that can help academic institutions improve their information systems and achieve their strategic objectives.

References:

1. Onunga, Jeremiah. (2020). Information Systems Audit Framework to Improve the Quality of Audit in Higher Education in East Africa. *Open Journal for Information Technology*. 3. 53-62. 10.32591/coas.ojit.0302.02053o.

2. Mohamed, Elfadil & Elshareif, Elgilani & Mohamed, Omer. (2019). Designing a Generic Information Systems Audit Framework to Improve the Quality of Audit in Higher Education. *Journal of Computer Science*. 15. 664-672. 10.3844/jcssp.2019.664.672.
3. Santos, Marwata, Irwan Sembiring. (2014). EMIS Information Systems Audit on the Timor-Leste Education Ministry with a COBIT4.1 Framework. *International Journal of Computer Applications*. Volume 89 – No.5.
4. Reshma Patil, Sachin Kadam. (2020). A critical study of information systems audit with reference to academic institutions.
<http://hdl.handle.net/10603/337517>
5. Chudasama, Dhaval & Sharma, Lokesh & Solanki, Nishant & Sharma, Priyanka. (2019). A Comparative Study of Information Systems Auditing in Indian Context. 7. 20-28.
6. Majdalawieh, Munir & Zaghoul, Issam. (2009). Paradigm shift in information systems auditing. *Managerial Auditing Journal*. 24. 352-367. 10.1108/02686900910948198.
7. Al-Qudah, Dr. Anas & Baniahmad, Dr & Al-Fawaerah, Dr & Absr, Absr. (2013). The Impact of Information Technology on the Auditing Profession By Dr. Anas Ali Al-Qudah, Dr. Ahmad Yahiya Baniahmad, and Dr. Nawwaf Al-Fawaerah. *Management and Administrative Sciences Review*. 2. 423-430.

19. Impact of GST on Spending Behaviour of Consumers in Pune City

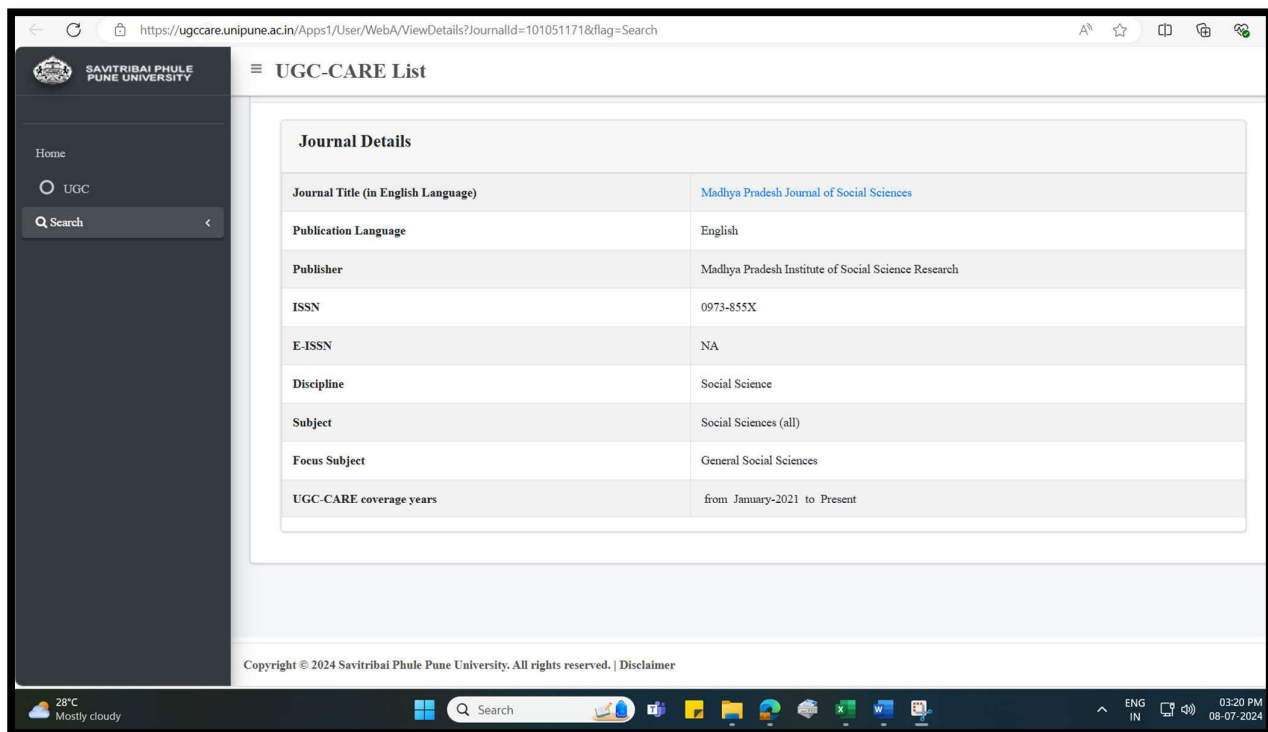


The screenshot shows the UGC-CARE List search results page. The search criteria are "0973-855X". The results table contains one entry:

Sl.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Madhya Pradesh Journal of Social Sciences	Madhya Pradesh Institute of Social Science Research	0973-855X	NA	from January-2021 to Present	View

Showing 1 to 1 of 1 entries. Navigation: Previous, 1, Next.

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The screenshot shows the UGC-CARE List journal details page for the journal "Madhya Pradesh Journal of Social Sciences".

Journal Details	
Journal Title (in English Language)	Madhya Pradesh Journal of Social Sciences
Publication Language	English
Publisher	Madhya Pradesh Institute of Social Science Research
ISSN	0973-855X
E-ISSN	NA
Discipline	Social Science
Subject	Social Sciences (all)
Focus Subject	General Social Sciences
UGC-CARE coverage years	from January-2021 to Present

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Journal- https://mpissr.org/?page_id=1076



Madhya Pradesh Institute of Social Science Research, Ujjain

मध्य प्रदेश सामाजिक विज्ञान शोध संस्थान, उज्जैन

(An Institute of ICSSR, Ministry of Education, Govt. of India and Govt. of Madhya Pradesh)

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**This is to certified that the article entitled
IMPACT OF GST ON SPENDING BEHAVIOUR OF CONSUMERS IN PUNE CITY**

Authored By

Mrs. .Vaishali Rajendra Patil

(Assistant Professor), Sadhu Vaswani Institute of Management Studies for Girls, Pune

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Editor-in-Chief

IMPACT OF GST ON SPENDING BEHAVIOUR OF CONSUMERS IN PUNE CITY

Ms. Snehalata Bhikaji Patil

(Student), Sadhu Vaswani Institute of Management Studies for Girls, Pune

Mrs. .Vaishali Rajendra Patil

(Assistant Professor), Sadhu Vaswani Institute of Management Studies for Girls, Pune

ABSTRACT

In India, the Goods & Service Tax (GST) is the form of indirect tax that has replaced all other indirect taxes. It levies fees for the provision of products and services as well as for the consumption and sale of goods. In India, we previously paid "Value Added Tax" (VAT) and numerous other indirect taxes. In every stage, VAT was a charge for goods. from the point of creation through the costs and location of sale. On the other hand, there is the GST, which ends the cascading tax effect. Cascading effect signifies that a tax is applied to a good at each level and step of the scale. State governments and the federal government both impose a GST on goods and services. The GST was implemented in India on July 1st, 2017, by the Indian Parliament. All individuals who pay indirect taxes to the government are given tax relief by the GST, and the GST has an effect on consumers' and individuals' capacity for consumption. The consumer's purchase decision is influenced by their financial capacity. GST has both positive and negative effects on the customer. GST can have a beneficial or negative impact depending on the circumstance. The current Research study aims to analyze the relationship between income and spending behavior of consumers in India & to measure the "Impact of GST on spending behavior by consumers in Pune".

KEY WORDS:- GST, Vat, Goods and services, Government, Consumer, consumer behavior

INTRODUCTION

Goods & Service Tax (GST) is the type of indirect tax in India and it charge for supply of goods, services, consumption of goods & sale of goods. It is a wide- ranging, multistage, goalbased tax. It is Wide-ranging because it combines the all other indirect taxes.

GST is Multi-staged because it charged at every level in the production process. It is goal-based tax because it charged from a point of consumption not like previous taxes when indirect taxes charged tax on tax. GST are majorly categorized into five slabs rates in India for collection of Goods & Service Tax - 0%, 5%, 12%, 18%, 28% and 31%. Before GST in India we paid the "Value added tax" (VAT) & many other indirect taxes. VAT was abolished and GST brought to India. VAT was utilization charge put on an item at whatever point esteems are included at each phase of gracefully chain, from creation to the retail location and costs. But in other hand we have GST, GST is very easy effective as compare to VAT & GST also finished and eliminates the cascading effect.

GOODS & SERVICE TAX (GST) GST is an Indirect Tax which replaced all other indirect Taxes in India. GST is charge by State Government & Centre Government for goods & services. GST start in India as 1st July 2017 by the Parliament of India But the GST Act waspassed in the Indian Parliament on 29th March 2017 and the Act came into effect on 1st July 2017

OBJECTIVE OF STUDY

- To study the concept of goods and Services tax
- To study how GST impacts the agriculture sector, the textile sector, and banking sector.
- To know which Products and services have been the greatest impact due to GST
- To know how consumer's attitudes towards Spending after the introduction of GST,
- To know the opinion of consumers on different types of GST and slab Rates, after conducting survey of

customers

CONCEPTS:

Definition: - Goods & Service Tax is the process of charging and collecting the indirect tax by peoples for goods and service it charge for supply of goods, services, consumption of goods & sale of goods.

Impact of GST on agriculture sector: - As per a Research study after the implementation of GST on the agriculture sector (fertilizer, grains and agriculture equipment) consumers are in opinion that price increased and there are changes in their spending behaviour toward the agriculture sector.

Impact of GST on banking sector:- As per a Research study after the implementation of GST ,on the banking sector (transaction charges, loan and fixed deposit) consumers are in opinion that price increased by 3% and there are changes in their spending behavior toward the banking sector.

Impact of GST on textile sector: - As per a Research study after the implementation of GST on the textile sector (woven, cotton and silk) consumers are in opinion that price increased and there are changes in their spending behaviour toward the textile sector.

LITERATURE REVIEW

V. Chitra, (2019) Objective of the study was to analyze the relationship between "Income & Spending Behaviour of Consumers in India after adopting the GST" & to Measure the "Impact of GST on Spending Behaviour of the Consumers in Chennai". This study concludes that there is no relationship between income and spending behavior of consumer and GST show a negative impact on Essential items and Services.

Dani S Shefali, (2016) made an Endeavour to comprehend why the proposed GST system may hamper the development and improvement of the nation. He brought up that the proposed GST system is an indifferent Endeavour to excuse the circuitous assessment structure. Further, the legislature should consider the GST system set up by different nations and furthermore, their after maths previously actualizing in our nation.

RESEARCH METHODOLOGY

For this study, Primary data was collected through the questionnaire. The data is collected from 100 respondents in Pune City . The secondary data has been collected from various websites, books, Journals, and reports

DATA ANALYSIS AND INTERPRETATION

Demographic profile of respondents

Gender	Responses	percentage
Male	52	52%
Female	48	48%
Prefer not to say	-	
TOTAL	100	100%

Interpretation: - From the above data, it is observed that the majority of the respondents means 52% are Male while the remaining 48% are Female.

AGE:-

Age Group	Responses	percentages
Below 18 year	2	2%
18-25	48	48%

25-40	35	35%
Above 40	16	16%
TOTAL	100	100%

Interpretation: - From the above data, 2% of respondents are from age group of below 18 years, 48% respondents are between 18-25 years, 35% respondents are between 25-40 years and 16% respondents are above 40 years.

OCCUPATION:-

OCCUPATION	Responses	Percentages
Government Employee	8	8%
Private Employee	37	37%
Self Employed	29	29%
Businessman	19	19%
Home Maker	7	7%
TOTAL	100	100%

Interpretation: - From the above data, it was observed that the majority of the respondents are 37% private employees while 29% are self Employed, 19% are businessman, 8% Government Employees and 7% are home marker

EDUCATION QUALIFICATION:-

EDUCATION QUALIFICATION	Responses	Percentages
X standard and below	3	3%
Intermediate	7	7%
Diploma/technical	16	16%
Graduation	42	42%
Post Graduation	32	32%
Other	-	-
TOTAL	100	100%

Interpretation: - From the above table, it was observed that majority of the respondents that is 42% respondents are graduates while 32% respondents are Postgraduates, 16% are diploma/technical, 7% are intermediate and only 3% belongs to x standard.

Full form of GST:

What is the full form of GST	Responses	Percentages
Goods and Supply Tax	2	2%
Goods and Services Tax	98	98%
General Sales Tax	-	-
Government Sales Tax	-	-
TOTAL	100	100%

Interpretation: - From the above data, it was observed that 98% respondents are aware about the full form of GST and 2% of respondents are not aware about the full form of GST

Date of Implementation of GST in India :

GST was implemented in India from	Responses	Percentages
1st January 2017	3	3%
1st April 2017	47	47%
1st March 2017	9	9%
1st July 2017	41	41%
TOTAL	100	100%

Interpretation: - From the above data, only 41% respondents are aware that GST was implemented in India from 1st July 2017, while remaining 49% consumers are not aware when GST was implemented in India

In India, the GST is based on the dual model which is GST adopted in:

In India, the GST is based on the dual model which is GST adopted in	Responses	Percentages
UK	7	7%
Canada	53	53%

USA	34	34%
Japan	6	6%
TOTAL	100	100%

Interpretation: - From the above data it revealed that 53% respondents are aware about GST model adopted from Canada, 34% respondents think that GST model adopted from USA, 6%&7% consumers think that GST model adopted from Japan & UK.

The number of structures in India's of GST model

The number of structures in India's of GST model	Responses	Percentages
6	9	9%
4	63	63%
3	21	21%
5	7	7%
TOTAL	100	100%

Interpretation: - From the above data it depicts that 63% respondents are in opinion that GST model has 4 structures (CGST, SGST, IGST and UIGST), while the remaining 21% respondents are in opinion that there are 3 models and 7%and 9% respondents are not aware about the GST Structure.

What is the full form of CGST?

What is the full form of CGST	Responses	Percentages
Carriage Goods and services tax	5	5%
Central Goods and Services Tax	72	72%
Central Goods and Supply Tax	21	21%
Central Government and Services Tax	2	2%
TOTAL	100	100%

Interpretation: - From the above data, it is observed that 72% of the respondents aware about the full form of CGST. While the remaining 28% of respondents are not aware about it.

What is the full form of SGST?

What is the full form of SGST	Responses	Percentages
Supply Goods and Services Tax	6	6 %
State Goods and Services Tax	64	64%
State Goods and Supply Tax	25	25%
State Government and Services Tax	5	5%
TOTAL	100	100%

Interpretation: - From the above the data, it was observed that 64% respondents are aware about the full from of SGST, while remaining 36% consumers are not aware about it.

What is the full form of IGST?

What is the full form of IGST	Responses	Percentages
Inter Goods and Services Tax	5	5%
Integrated Goods and Services Tax	72	72%
Integrated Goods and Supply Tax	19	19%
Integrated Government and Services Tax	5	5%
TOTAL	100	100%

Interpretation: - From the above data, it was observed that 72% consumers are aware about the full from of IGST, while remaining 29% consumers are not aware about it.

What is the full form of UTGST?

What is the full form of UTGST	Responses	Percentages
Union taxes Goods and Supply Tax	4	4%

Union territory Goods and Services Tax	63	63%
Union territory Goods and Supply Tax	30	30%
Union territory Government and Services Tax	3	3%
TOTAL	100	100%

Interpretation: - From the above data, it is observed that 63% consumers are aware about the full form of UTGST, while remaining 38% consumers are not aware about it.

GST rates applicable on goods and services are:

GST rates applicable on goods and services are	Responses	Percentages
0% 5% 12% 18% 26%	7	7%
0% 6% 12% 18% 28%	20	20%
0% 5% 12% 18% 28%	69	69%
0% 5% 12% 16% 28%	4	4%
TOTAL	100	100%

Interpretation: - From the above data, it was observed that 69% consumers are aware about GST rates applicable on goods and services, while the remaining respondents are not aware about it.

Which of these products and services should be tax-free?

GST rates applicable on goods and services are	Responses	Percentages
Daily use product (mineral water, etc)	3	3%
Medical supplies and Pharmaceuticals	33	33%
A and B	54	54%

None of these	10	10 %
TOTAL	100	100%

Interpretation: - From the about data , it was revealed that 54% respondents are in opinion that daily products and medical supplies both should be tax-free, 33% respondents are in opinion that medical supplies and pharmaceuticals should be tax-free, 3% respondents are in opinion that daily use product should be tax-free, while remaining 10% consumers are in opinion that none of these should tax -free.

After the implementation of GST on agriculture sectors (fertilizer, Grains and agriculture equipment) has the price increased?

After the implementation of GST on agriculture sectors (fertilizer, Grains and agriculture equipment) has the price increased	Responses	Percentages
YES	68	68%
NO	32	32%
TOTAL	100	100%

Interpretation: - From the above data, it was revealed that 68% respondents are in opinion that after the implementation of GST prices of agriculture products has increased while remaining 33% consumers are in opinion that prices are not increased.

After implementation of GST in agricultural sectors (fertilizer, grains and agriculture equipment) are there any changes in your spending behavior?

After implementation of GST on agricultural sectors (fertilizer, grains and agriculture equipment) are there any changes in your Spending behavior?	Responses	Percentages
YES	52	52%
NO	33	33%
Maybe	15	15%
TOTAL	100	100%

Interpretation: - From the above data, it was observed that 52% respondents are in opinion that after implementation of GST there is change in their spending behavior of agricultural products, 33% are in opinion that there is no change in their spending behavior, while remaining 15% respondents are not sure about it.

If yes, how much percentage change in your spending behavior towards agricultural sectors?

If yes, how much percentage change in your spending behavior towards agricultural sectors	Responses	Percentages
0-10%	26	26%
10-25%	28	28%
25-40%	33	33%
40-60%	10	10%
60% ABOVE	3	3%
TOTAL	100	100%

Interpretation: - From the above table , it was observed that in case of agricultural sector , 33% respondents are in opinion that there is 25 -40% change in spending behavior after GST implementation, 10% respondents are in opinion that there is 40-60% change, 28% respondents are in opinion that there is 10-25% change, 26% respondents are in opinion that there is 0-10% change in their spending behavior .

After the implementation of GST in banking sector (transaction charges, loan and fixed deposit) has the price increased?

After the implementation of GST in banking sector (transaction charges, loan and fixed deposit) has the price increased	Responses	Percentages
YES	60	60%
NO	40	40%
TOTAL	100	100%

Interpretation: -From the above data, it was revealed that 60 % of the respondents are in opinion that after the implementation of GST, the services charges of banking sector products and services has increased, while remaining 40% respondents are in opinion that there is decrease in price .

After the implementation of GST in banking sectors (transaction charges, loan and fixed deposit) are there any changes in your spending behavior?

After the implementation of GST in banking sectors (transaction charges, loan and fixed deposit) are there any changes in your spending behavior	Responses	Percentages
YES	59	59%
NO	28	28%
Maybe	13	13%
TOTAL	100	100%

Interpretation: - From the above data , it was observed that 59% of respondents are in opinion that after implementation of GST , there is change in their spending behavior in availing banking products and services 28% respondents are in opinion that there is no change in their spending behavior, while remaining 13% consumers are not sure.

If yes, how much percentage of change in your spending behavior towards banking sector products and services

If Yes, how much percentage change in your spending behavior towards banking sector products and services	Responses	Percentages
0-10%	19	19%
10-25%	26	26%
25-40%	36	36%
40-60%	17	17%
60% ABOVE	2	2%
TOTAL	100	100%

Interpretation: - From the above table, it was observed that 36% respondents are in opinion that there is 25-40% change in spending behavior after implementation of GST in banking sector products and services , 17% respondents are in opinion that there is 40-60% change, 26% respondents are in opinion that there is 10-25% change, 19% respondents are in opinion there is 0-10% change in their spending behavior.

After the implementation of GST in textile sector (woven, cotton and silk) has the prices are increased?

After the implementation of GST in textile sectors (woven, cotton and silk) has the prices increased	Responses	Percentages
YES	65	65%
NO	35	35%
TOTAL	100	100%

Interpretation: - From the above data, it was observed that 65% respondents are in opinion that after the implementation of GST prices of textile sectors has increased, while remaining 35% respondents are in opinion that there is no increase in price .

After the implementation of GST in textile sectors (woven, cotton and silk) are there any changes in your spending behavior

After the implementation of GST in textile sectors (woven, cotton and silk) are there any changes in your spending behavior	Responses	Percentages
YES	43	43%
NO	36	36%
Maybe	21	21%
TOTAL	100	100%

Interpretation: - From the above table , it was observed that 43% respondents are in opinion that after implementation of GST in textile sector there is change in their spending behavior, 36% respondents are in opinion that there is no change in their spending behavior, while remaining 21% consumers are not sure about this .

If yes; How much percentage change in your spending behavior towards textile sectors

percentage change in spending behavior toward textile sectors	Responses	Percentages
0-10%	22	22%
10-25%	38	38%
25-40%	32	32%
40-60%	7	7%
60% ABOVE	1	1%
TOTAL	100	100%

Interpretation: - From the above table , it was observed that 32% respondents are in opinion that there is 25-40% change in their spending behavior after implementation of GST, 7% respondents are in opinion that there is 40-60% change, 38% respondents are in opinion that there is 10-25% change, 22% respondents are in opinion that there is 0-10% change.

FINDINGS:

Implementation of GST effects on the "Agricultural sector, Banking sector and Textile Sector. According to research, when GST was implemented in India, respondents'

purchasing power for these kinds of goods and services decreased. Due to the necessity for software installation and hiring people to keep track of GST, GST raises operating costs for small company units. Some goods and services now cost more due to the introduction of GST.

CONCLUSION

GST is an effective tool to generate money for both types of Government "Central & State Government". GST reduces the possibility of tax evasion and fraud and also helps to reduce black transactions. But GST gives a negative impact on some people who have no proper knowledge about GST & indirect taxes. Goods & Service Tax has also Negative impact on consumer spending behavior towards the certain items/commodities. Like Agricultural products, banking services and textile product and essential Commodities/Necessary daily routine products & services. But researcher didn't get any relation between Income & Superfluous items like (Wine, Beer, Rum, Whiskey, Tobacco Items, and Drug items.) People still use these types of goods significantly. According to research, the overall percentage of Success with GST is good; GST also gives a positive effect on educated people who have proper knowledge about GST. It helps to motivate the consumers to buy essential items & Services significantly and GST does not affect the consumers to spend their money to buying largely essential goods & services significantly, and Goods & Service Tax is beneficial for consumers.

REFERENCES

1. Dr. V. Chitra, (July-2019) "Impact of GST on Spending Behaviour of the Consumers" International Journal of Management, Head, Department of Commerce (Honors), Shri S.S. Shasun Jain College for Women, Chennai, India.
2. Dani S Shefali, (2016) "A Research Paper on "Impact of Goods and Service Tax (GST) on Indian Economy", Business Economic Journal, volume 7,
3. Gupta Archit, (29th March 2017) "GST- impact on common man" Financial Express.

20. A Literature Review on Virtual Employee Engagement

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Sr.No.	Journals in Group II (Included in UGC-CARE List)	Cloned Journals (Not Included in UGC-CARE List)
29	<p>Title - Journal of Interdisciplinary Cycle Research</p> <p>Language : English Publisher : Swets & Zeitlinger ISSN : 0022-1945 URL : NA</p>	<p>Title - Journal of Interdisciplinary Cycle Research</p> <p>Language : English Publisher : NA ISSN : 0022-1945 URL : http://www.jicjournal.com/</p>

51	<p>Title - Journal of Interdisciplinary Cycle Research</p> <p>Language : English Publisher : Swets & Zeitlinger ISSN : 0022-1945 EISSN : NA URL : NA Journal Status : Scopus Discontinued</p>	<p>Title - Journal of Interdisciplinary Cycle Research</p> <p>Language : English Publisher : NA ISSN : 0022-1945 E_ISSN : NA URL : http://www.jicjournal.com/</p>
52	<p>Title - Journal of Korean Academy of Psychiatric and Mental Health Nursing</p> <p>Language : English, Korean Publisher : The Korean Academy of Psychiatric and Mental Health Nursing ISSN : 1225-8482 URL : https://jkpmhn.org/</p>	<p>Title - Journal of Korean Academy of Psychiatric and Mental Health Nursing</p> <p>Language : English Publisher : NA ISSN : 1225-8482 E_ISSN : 2288-4653 URL : https://mhnursing.or.kr/index.php/JKPMHN/index</p>

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Authored by :

Ms. Sonali Joshi

From

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A LITERATURE REVIEW ON VIRTUAL EMPLOYEE ENGAGEMENT

Ms. Maanshri R. Jaiswal¹, MBA, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Ms. Sonali Joshi², Faculty – MBA, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Abstract

“When people are financially invested, they want a return. When people are emotionally invested, they want to contribute.” - Simon Sinek.

Employee engagement online has become crucial to the success of organizations as the use of remote work increases. The goal of this literature review study is to present a thorough overview of the current body of information about virtual employee engagement, as well as its conceptualization, measurement, and influencing factors. To identify existing trends and potential future areas for research, the paper conducts a comprehensive evaluation of the literature on virtual employee engagement from a range of disciplines, including organizational behavior, management, and psychology. The study emphasizes the significance of virtual employee engagement and how it affects remote worker retention, job satisfaction, and employee motivation.

Keywords – employee engagement, workspaces, virtual employment

Introduction

Virtual employee engagement has become a crucial component for organizations' success in today's dynamic work environment. The importance of comprehending and enhancing virtual employee engagement has grown as remote work arrangements become more common. With regard to conceptualization, measurement, and influencing factors, this literature review attempts to present a thorough overview of the current body of information on virtual employee engagement.

The review uses a variety of academic fields, including organizational behavior, management, and psychology, to pinpoint current trends and possible research opportunities. With a focus on how important virtual employee engagement is for remote worker retention, job satisfaction, and employee motivation. This literature review attempts to offer useful insights into the state of knowledge on virtual employee engagement by synthesizing and examining various studies. The results will be crucial for businesses looking to increase remote workers' engagement, assuring their motivation, dedication, and success in attaining business objectives.

Literature Review

Pal, K., George, R., & Chauhan, R. (2021) speak about employee engagement virtual work environments as a crucial issue. Remote work options have been made possible by the COVID-19 epidemic, highlighting the necessity for efficient engagement-boosting techniques. In their article titled "A Review of Employee Engagement and Strategies Implementation in Virtual Work Environment," Pal et al. investigate employee engagement and methods for development. They emphasize the significance of engagement, which includes elements like occupation fulfillment, dedication, inspiration, and involvement. Employees who are engaged are more devoted and productive, while disengaged workers are more likely to be absent and

underproductive. Due to the lack of physical proximity, the possibility of isolation, communication impediments, cultural differences, and technological difficulties, virtual work settings present difficulties. The authors offer solutions to these problems, including clear communication, socialization opportunities, training, rewards, and a supportive organizational culture. They reach the conclusion that in order to assure motivation and commitment to organizational goals, organizations should proactively customize engagement tactics to the virtual workforce.

Chaudhary, V., Mohanty, S., et al (2021) depict a rise in virtual work arrangements as a result of the COVID-19 pandemic in India, underscoring the importance of comprehending the variables influencing virtual employee engagement. In their quoted article, they investigate these variables. In a virtual context, they define virtual employee engagement as the emotional and psychological bond that employees have with their employers, coworkers, and organization. Infrastructure in terms of technology, communication, leadership, work-life balance, and job security all have an impact on engagement. Engagement requires a variety of factors, including the use of technology, good leadership, work-life balance, and job security. The authors stress that organizations must address these issues to maintain engaged and motivated employees during the epidemic.

Howell, D. C. (2021), admits that the COVID-19 pandemic has hastened the acceptance of remote work, prompting the need for efficient ways for motivating remote workers. In a remote work environment, virtual employee engagement is the emotional and psychological bond between employees and their job, coworkers, and organization. It influences productivity, motivation, and dedication, all of which are important for organizational success. For involving a remote workforce, the author offers the following best practices:

- *Regular and clear communication* by keeping remote workers connected and informed with frequent updates on its objectives, goals, and performance measures.
- *Socialization and team-building opportunities*: Online games, virtual coffee breaks, team-building exercises address the isolation and disconnect that remote workers could have.
- *Training and development opportunities*: Remote workers can grow their abilities and advance in their careers by investing in professional development through mentoring, coaching, and training programs.
- *Acknowledging efforts* through incentives, bonuses, and public recognition encourages involvement among distant workers.
- *Fostering a supportive organizational culture*: Encourage remote workers to provide input and participate in decision-making while also fostering an environment of trust and respect.

The author concludes by opining that remote workers will stay engaged, motivated, and dedicated if a proactive strategy is used, along with the implementation of customized best practices to achieve organizational goals.

St. Aimee, C. (2021) investigates the link between virtual employee engagement, self-efficacy, and productivity in remote work. The COVID-19 epidemic has expanded the incidence of remote work, and the author emphasizes how crucial it is to comprehend the variables driving

engagement and productivity in virtual workplaces wherein the author described the term "virtual employee engagement" as the emotional and psychological ties that employees feel to their organization, coworkers, and work in a virtual environment. It affects dedication, motivation, and productivity, making it essential for organizational success. Self-efficacy is recognised as a key component affecting engagement and productivity in virtual work environments. High self-efficacy employees are more likely to be engaged and productive because they are confident in their abilities to do job duties from a distance.

Numerous research indicates a favorable correlation between productivity, self-efficacy, and virtual employee engagement. Employees with high levels of engagement and self-efficacy typically produce more in virtual work environments. The author concludes that self-efficacy and virtual employee involvement are important factors in productivity. Organizations need to be proactive in fostering engagement and productivity by giving workers the tools, resources, and support they need to be more self-sufficient. By doing this, businesses can guarantee that their virtual staff stays motivated, engaged, and productive.

Priya, V. M. (2021) examines virtual employee engagement and approaches for including workers in a virtual work environment. Employees' emotional and psychological ties to their jobs, coworkers, and company in a virtual setting are referred to as virtual employee engagement. It has an effect on productivity, motivation, and dedication, all of which are important for organizational success. In order to keep workers interested in a virtual work environment, the author offers strategies such as Effective communication, fostering loyalty among virtual employees by demonstrating a commitment to their welfare and job security, Socializing and team-building opportunities, opportunities for training and development and robust reward systems.

Dr. Pederson, H. (2021) investigates the impact of virtual employment on employee engagement. The COVID-19 pandemic has led to an increase in the use of virtual work arrangements, and the author emphasizes how crucial it is to comprehend how these arrangements affect employee engagement. Virtual employment, which offers flexibility and work-life balance but also presents engagement issues, is described as remote work using technology for communication and carrying out job obligations. The author brings about results of numerous studies on the effect of virtual employment on engagement. The findings, however, are contradictory, with some research indicating poorer involvement because of feelings of loneliness and detachment and others reporting higher engagement because of freedom, adaptability, and work-life balance. The paper delves into the effect of virtual employment on engagement as a dependent on a variety of factors, including the nature of work, the working relationship, and organizational culture. The author suggests taking a proactive stance when it comes to virtual employee engagement and adjusting techniques to meet their demands.

Dr. Castillo (2021) emphasizes on the emotional and psychological bond a person has with their job, coworkers, and organization in a virtual work environment that positively or negatively affects dedication, motivation, and productivity, making it essential for organizations to understand the reasons for success / failure. She presents results from a qualitative empirical

phenomenological study that involved interviews with remote workers from diverse businesses. A number of variables that affect virtual employees' engagement are highlighted, prominent ones being work-life flexibility, trust amongst the employees / teams supported by an encouraging culture. The paper reinstates that businesses should take a proactive stance and adjust their strategy to the specific requirements of their remote workforce. By doing this, businesses can make sure that their remote workers continue to be engaged, motivated, and dedicated to achieving the company's objectives.

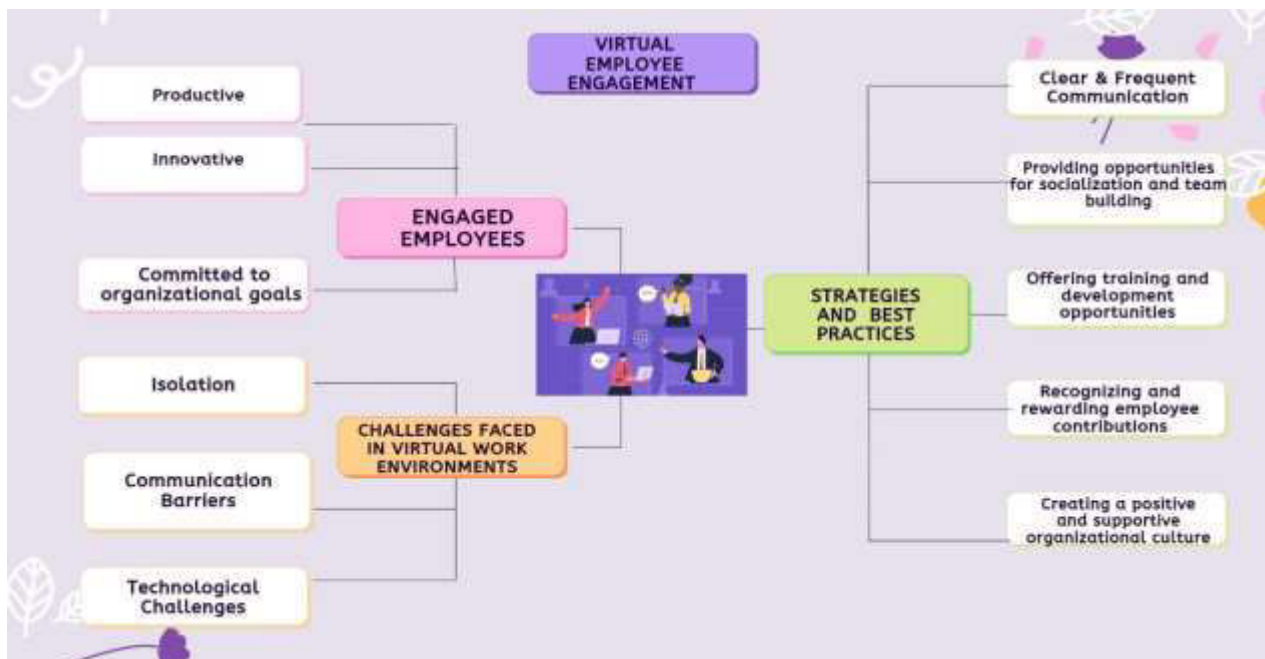
Mitchell, R. N. (2021) analyses the connection between virtual communication and employee engagement in a remote work setting. The necessity of understanding how virtual communication affects employee engagement has become apparent in the contemporary era of remote work. When remote workers, managers, and clients communicate with one another virtually, this is referred to as virtual communication. It plays a crucial part in encouraging virtual employee engagement by enabling remote workers to connect with coworkers and have a feeling of belonging. Employee engagement and virtual communication are positively correlated, according to numerous research. Increased engagement and job satisfaction among remote employees are results of regular communication with managers, coworkers, and clients. The author enlists a few strategies such as Video conferencing, feedbacks, virtual relationship building that can be used by organizations to enhance virtual communication and employees engagement. The author emphasizes that organizations should adopt a proactive approach, implementing effective strategies to enhance virtual communication and employee engagement. By doing so, they can ensure that their remote employees remain engaged, motivated, and committed to achieving organizational goals.

Borges, F. C. L. (2020) investigates the use of gamification as a tactic to improve employee engagement in remote work settings. Effective engagement tactics for remote employees are crucial in the modern world of remote work, when virtual teams are on the rise. Numerous studies show that gamification can successfully involve distant workers in virtual teams. It encourages competitiveness, teamwork, and ongoing feedback, inspiring and energizing remote workers. The choice of game design components, the nature of the task, and organizational culture all have an impact on how well gamification works in virtual teams. Gamification should be actively adopted by businesses, with tactics specifically tailored to the requirements of their virtual workforce. To increase employee engagement in virtual teams, several game design components are found such as Points and badges, Leaderboards, Collaborative tasks etc. have the potential to raise employee engagement in remote teams.

Findings

- Virtual employee engagement encompasses factors like job satisfaction, commitment, motivation, and involvement. Engaged employees are more productive and committed, while disengaged ones tend to be absent and unproductive.
- Virtual work environments pose unique challenges due to physical separation, potential isolation, communication barriers, cultural differences, and technological issues.

- Strategies for improving virtual employee engagement include clear communication, socialization opportunities, training, recognition, and a positive organizational culture tailored to the virtual workforce.
- Factors affecting virtual employee engagement include technology infrastructure, communication, leadership, work-life balance, organizational culture and job security.
- Self-efficacy, defined as an individual's belief in their ability to perform a task successfully, plays a significant role in virtual employee engagement and productivity.
- Best practices for engaging a remote workforce include clear and frequent communication, socialization and team-building opportunities, training and development, recognition and rewards, and fostering a positive and supportive organizational culture.
- The impact of virtual employment on employee engagement can vary, with some studies reporting lower engagement due to isolation and disconnection and others reporting higher engagement due to autonomy, flexibility, and work-life balance.
- Virtual communication plays a critical role in fostering virtual employee engagement, and regular communication with managers, colleagues, and clients enhances engagement and job satisfaction among remote employees.
- Gamification, the application of game design elements in non-game contexts, can effectively engage remote employees in virtual teams through competition, collaboration, continuous feedback, and rewards.
- Remote work has both positive and negative impacts on employee engagement, with advantages including flexibility and work-life balance, but potential disadvantages including feelings of isolation and disconnection.
- It is important to note that these findings are a summary of the main points provided in the literature and may not encompass all the details and nuances presented in the original studies.



Conclusion

The reviewed papers emphasize the importance of employee engagement in virtual work environments, particularly in the context of the COVID-19 pandemic. They highlight that engaged employees are more likely to be productive, innovative, and committed to organizational goals, while disengaged employees are more likely to be absent and unproductive. The papers also acknowledge the unique challenges faced in virtual work environments, such as isolation, communication barriers, and technological challenges.

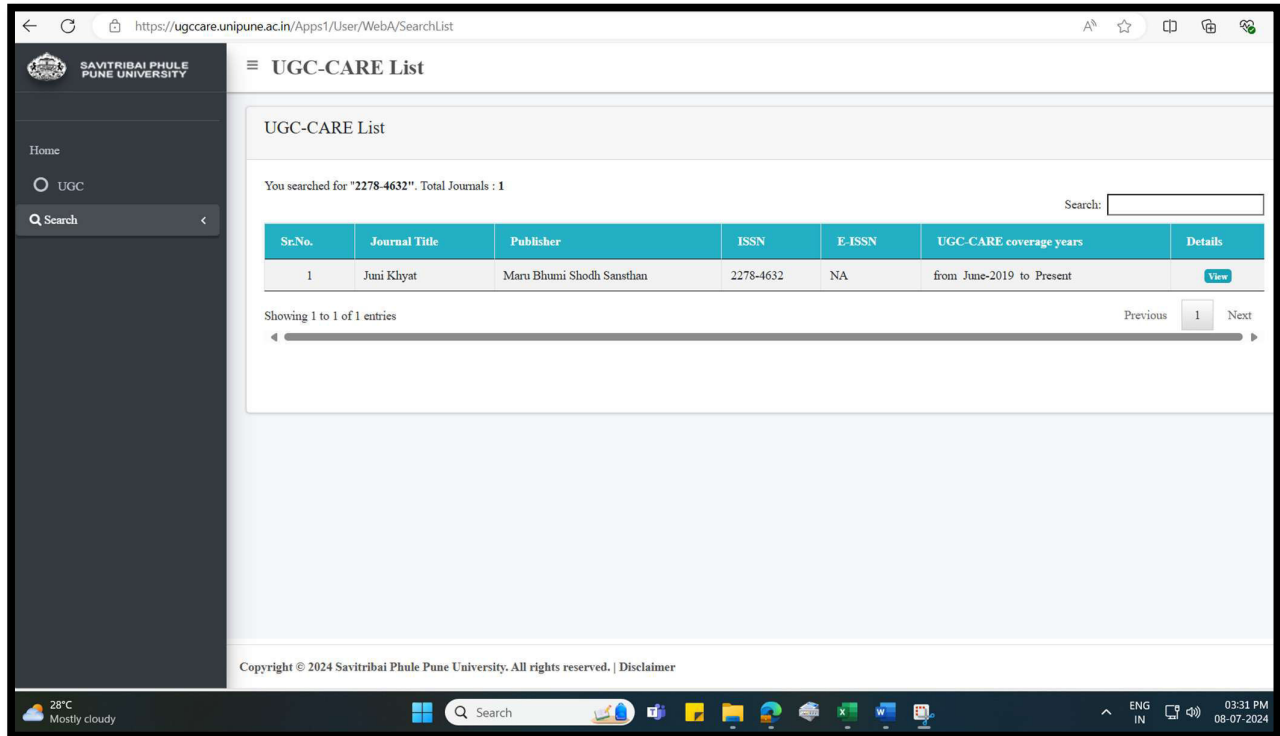
To improve employee engagement in virtual work environments, the papers suggest various strategies and best practices. Effective employee engagement is crucial for organizational success in virtual work environments. They recommend a proactive approach to employee engagement and the implementation of strategies tailored to the unique needs of the virtual workforce. By adopting these strategies and addressing the identified factors, organizations can ensure that their virtual employees are engaged, motivated, and committed to achieving organizational goals.

References

- Pal, K., George, R., & Chauhan, R. (2021). A review of employee engagement and strategies implementation in a virtual work environment. *Journal of Management*, 8(1), 12-23.
- Chaudhary, V., Mohanty, S., Malik, P., Mary, A. A. S., Maroor, J. P., & Nomani, M. Z. M. (2021). Factors affecting virtual employee engagement in India during Covid-19. *International Journal of Scientific Research and Management*, 9(05), 7773-7781.
- Howell, D. C. (2021). Virtual employee engagement: Identifying best practices for engaging a remote workforce. *Journal of Business and Management*, 8(2), 45-52.
- St. Aimee, C. (2021). Relationship between virtual employee engagement, self-efficacy, and productivity. *Journal of Business and Psychology*, 36(2), 239-248.
- Priya, V. M. (2021). A study on engaging employees through virtual workplace. *International Journal of Engineering and Management Research*, 11(1), 10-16.
- Pederson, H. (2021). The impact of virtual employment on level of engagement. *Journal of Business and Psychology*, 36(3), 365-374.

- Castillo, G. A. (2021). Employee Engagement: Engaging in a Virtual Remote Era - A Qualitative Empirical Phenomenological Study. *Journal of Business and Psychology*, 36(2), 315-326.
- Mitchell, R. N. (2021). The correlation between virtual communication and employee engagement. *Journal of Business and Technical Communication*, 35(3), 344-353.
- Borges, F. C. L. (2020). Employee engagement in virtual teams: The role of gamification. *International Journal of Business and Management Invention*, 9(11), 44-48.
- Anand, A. A., & Acharya, S. N. (2020). Employee engagement in a remote working scenario. *International Journal of Scientific Research and Management*, 8(09), 387-391.

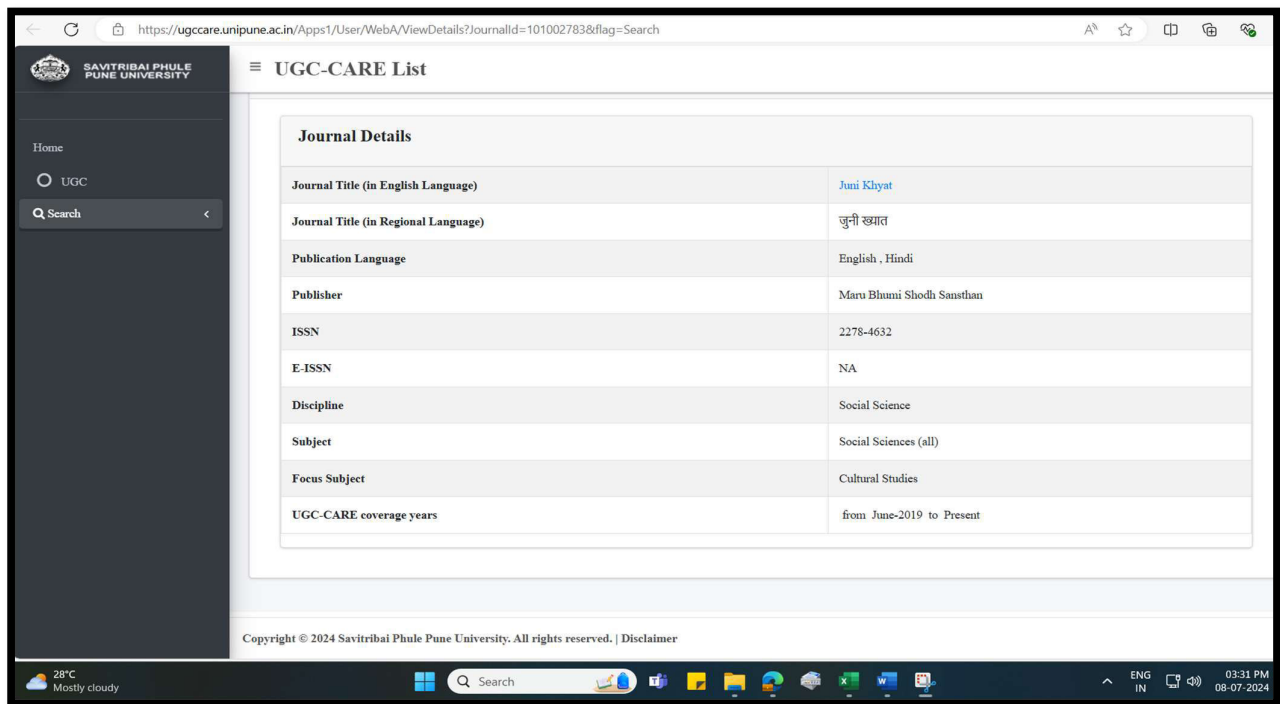
21. Talent Search and Executive Recruiting for Corporate Travel Consultants in Pune



The screenshot shows the UGC-CARE List search results page. The search criteria is "2278-4632". The results table is as follows:

Sr.No.	Journal Title	Publisher	ISSN	E-ISSN	UGC-CARE coverage years	Details
1	Juni Khyat	Maru Bhumi Shodh Sansthan	2278-4632	NA	from June-2019 to Present	View

Showing 1 to 1 of 1 entries. Navigation: Previous 1 Next



The screenshot shows the UGC-CARE List journal details page for the journal "Juni Khyat". The details are as follows:

Journal Details	
Journal Title (in English Language)	Juni Khyat
Journal Title (in Regional Language)	जुनी ख्यात
Publication Language	English , Hindi
Publisher	Maru Bhumi Shodh Sansthan
ISSN	2278-4632
E-ISSN	NA
Discipline	Social Science
Subject	Social Sciences (all)
Focus Subject	Cultural Studies
UGC-CARE coverage years	from June-2019 to Present

Journal- <http://www.rbhpsdungargarh.com/pages-patrika.php>

जूनी ख्यात JUNI KHYAT जूनी ख्यात JUNI KHYAT



CERTIFICATE OF PUBLICATION

This Publication certificate has been issued to

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Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune.

For the Research paper title

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जूनी ख्यात JUNI KHYAT जूनी ख्यात JUNI KHYAT

**TALENT SEARCH AND EXECUTIVE RECRUITING FOR CORPORATE TRAVEL
CONSULTANTS IN PUNE**

Resham Puglia, MBA Scholar, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Sonali Joshi, Assistant Professor, Sadhu Vaswani Institute of Management Studies for Girls, Pune

Abstract

Strategic recruitment today has moved beyond only best fit for best job. The parameters have exploded further. Getting that one perfect employee is making the talent search, acquiring and retaining is most emphasized practice in HR today. Today the companies are not only searching for an efficient co – worker who would fill the requirements of the post but also shall work as an intrapreneur, i.e develop the business as per the company demands. To develop sales as well as reach in the market, any organisation requires both fresh minds, experience as well as advertising of the right kind at the right time and place - for which we need a team. Every summer, the companies provide internship as a platform to develop and skill the workforce and also rope in the interns as employees if they out-perform themselves. This is furthered by digitalization / AI-zation of recruitment or talent hunt. This research paper looks at corporate travel consultant based in semi urban city of Pune with 25 employees. Pre pandemic there were 50 people in the team. 30 people in sales, 10 in operations and accounts each. The aim of this paper is to study the talent search and executive recruiting process followed by the company and the necessity of the same in a small company as compared to the giants in the market.

Keywords – Talent Search, Digitalization, Sourcing

Objectives of The Research:

1. To study recruitment, selection strategy procedure followed.
2. To assess the effect of digitalization on the HR processes in the company.
3. To search or headhunt people whose skills fit into the company's value.

Introduction

In the Business of 'Business Travel': The company is involved with multiple aspects of travel and hospitality, thereby forming a team of people with diversified experiences and knowledge. The team has pledged to deliver a quality service pertaining to each product being offered. Business travel needs to be well taken care of in all respects to ensure peace of mind for the business traveller while away from home. They are people/customer oriented, proactive, analytical, methodological and ready to cope up with business travel program, not only do they provide service and assistance but also ensure that the traveler saves money. The foray into travel & hospitality has been destined. Growing organizations are always ready to learn things and are enthusiastic to deliver the service in the best way that suits the consumer. Being varied makes them learn new things every day and incorporate the learning's into all the products leading to development and quality deliverance.

CORPORATE TRAVEL MANAGEMENT

Corporate Travel Management (CTM) is the function to manage the company's strategic & methodological approach towards travel, day-to-day operation of the corporate travel requirement, traveller safety & security, data management. CTM follows the allocated budgets on the class of service that employees are allowed to fly, negotiate corporate fares/rates with hotels, regular evaluation of the travel needs, better expense - management systems, better supplier rates, repeated negotiations, contracting etc which will further enhance the travel management system.

The integration of hotel room inventory from large global consolidators displays about 3.5 lakhs hotels and service apartments under one window. Hotel industry in today's date is facing issues related to over- supply of the rooms as compared to the demands. In the earlier days the average

room rate for a 4 star hotel would range from 7500 to 10,000 INR; today we cannot even think of 6000 to be the ARR (average room rate). To speak about occupancies the hotels used to achieve occupancies of more than 75 % with much ease and today to be at 65 % even is a challenge and a task to accomplish. To add more, the competition is becoming tougher by flourishing chained / branded hotels in the country. With these branded hotels having their wide sales network of their regional sales offices, dedicated sales team working at each place, strong online presence etc have got more resources to sell their product, whereas it becomes difficult for the stand-alone hotelier to have its own sales offices and teams at different cities as it becomes too expensive and difficult to manage.

LITERATURE REVIEW

Hosain (2020) examines the role of social media in talent search and acquisition, particularly in the context of the evolving digital landscape. The author explores how social media platforms, such as LinkedIn, Facebook, and Twitter, have revolutionized the traditional recruitment process and created new opportunities for employers to connect with potential candidates.

Fuller et al. (2021) go on to discuss how leaders can improve their hiring practices to better identify and recruit hidden workers. They provide a range of practical recommendations, including partnering with community organizations, implementing inclusive language in job postings, offering flexibility in work arrangements, and providing training and development opportunities for all employees.

Kohli (2019) examines the latest trends in talent acquisition covering topics such as social recruiting, employer branding, candidate experience, data analytics, and artificial intelligence. The author also emphasizes the importance of aligning talent acquisition with organizational strategy and culture, as well as the need for ongoing evaluation and adaptation of talent acquisition practices in response to changing market conditions.

Zaccaro (2014) provides a checklist for the search for executive talent, drawing from the SHRM Foundation's Effective Practice Guidelines Series. He presents a step-by-step checklist for effective executive search, covering the following key areas: defining the role and qualifications, developing a search strategy, identifying and evaluating candidates, selecting and onboarding the chosen candidate, and evaluating the effectiveness of the search process.

Lubbe (2003) examines corporate travel management in selected South African organizations and proposes a conceptual model for effective corporate travel management. The author begins by providing an overview of corporate travel management and its importance for businesses in terms of cost control, efficiency, and employee well-being.

WORKING OF THE ORGANIZATION

The company located in Koregaon Park, Pune works as Travel management desk for corporates requiring international hotel booking.

The internal management of the companies is divided majorly into 3 parts-

1. The Sales team of the company gets in touch with travel desk or travel manager of the corporate house via e – mail or telephonic conversation whichever is preferred or required. Once POC is decided, the team explains the services provided and brochures of the same are shared. When consensus is reached, billing cycle is decided according to credit period required or can be provided, further operations team handles the work.
2. The operations team as soon as the request is received from the clients, form an email giving detailed options they can choose from along with rates, check in and check out dates according to time zones etc. As soon as confirmation is received, the same is processed and forwarded to accounting department.
3. The accountant then makes a bill to company for the same with GST and currency bifurcation's as well.

IMPACT OF PANDEMIC ON THE ORGANIZATION.

Due to pandemic travel industry was severely affected. The employee count went down 50%, making it even more difficult to survive once business revives. Earlier there were 50 employees, now there are 25, workload has now started increasing because of which competent workers will be crucial deciding factor for excellent service delivery. The recruitment and selection process that’s an important part of any organization. Which is considered as a necessary asset of a company. In fact, recruitment and selection gives a home ground to the organization acumen that is needed for proper functioning of the organization. It gives organizational structure to the company.

UNDERSTANDING TALENT SEARCH AND EXECUTIVE RECRUITING

Meaning Of Talent Search:

Talent is the natural ability to do something well. A search is an attempt to find something or someone by looking for them carefully.

The process of Talent Search is known as Talent Sourcing.



The talent sourcing as a process will vary from organization to organization, depending on their needs and growth goals. In most cases, the process follows these steps:

Identification Competencies required, Experience level and skill set.

Research Where you can find the talent that meets your criteria.

Networking Once you have answered what and where, focus on networking .

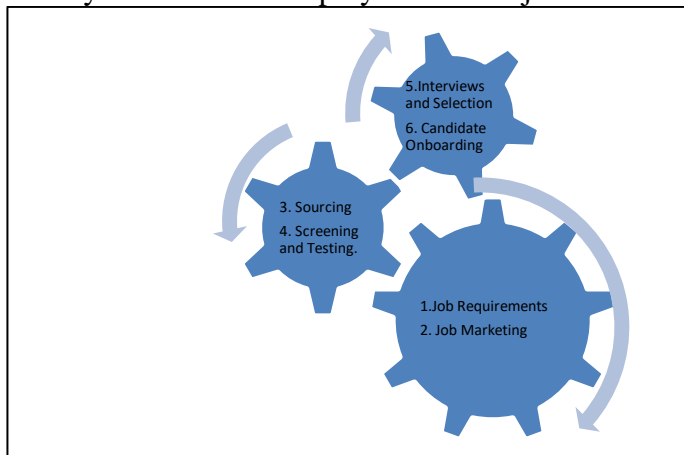
Nurturing Stay in contact with potential candidates to ensure strong talent pool.

Fig 1. Talent Search Cycle

Often in a Small to Medium-sized business, talent sourcing is combined with or carried-out by the same team members responsible for candidate sourcing.

The Process of Talent Sourcing at the Company

According to Edwin B. Flippo, “Recruitment is the process of searching the candidates for employment and stimulating them to apply for jobs in the organization”. Recruitment is the activity that links the employers and the job seekers.



Parameters of selection

1. Job post – Opening is posted on several recruitment platforms.
2. Review – All applications review and set of desirable candidate for next round.
3. Testing – Verified set of skills and knowledge.
4. Interview – Selected candidates give personal interviews.
5. Successful Candidate – Finalised candidate is informed, requested to provide references and await a response.

Fig 2. Recruitment Cycle followed at the Company

End to end Recruitment

Research Methodology

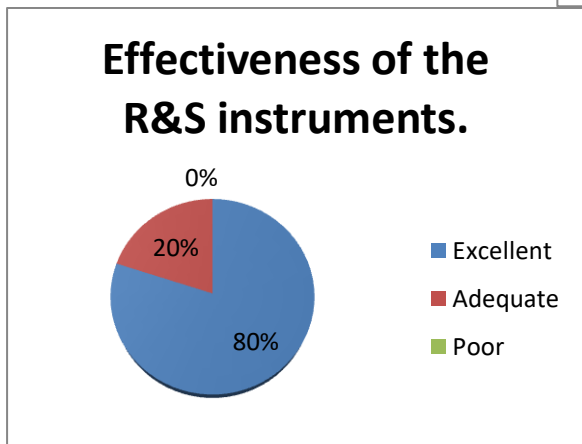
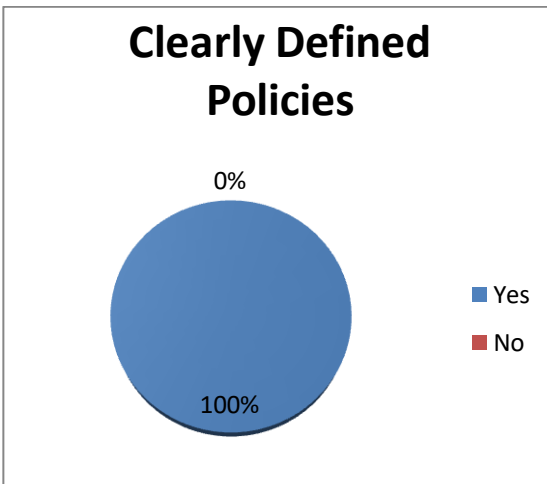
The research is descriptive in nature. The primary data was collected using questionnaire from 25 employees.

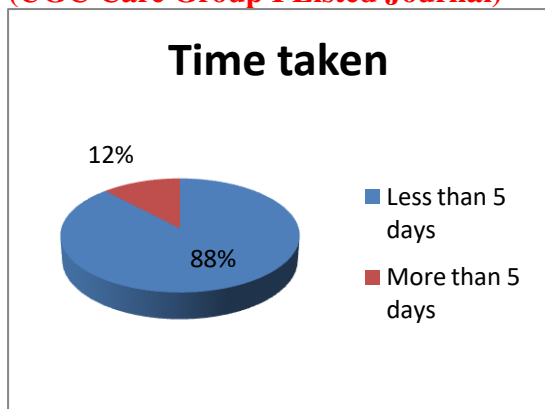
Sample Industry	Service Industry.
Sample Unit	25 employees.
Sample Universe	Hospitality Industry.
Technique of sampling	Universe Sampling.

Of the Survey conducted, the major points that came through are depicted as below

The method of recruitment mostly used by the companies is by the applications and the resume's dropped in by the candidates wanting to join the organization.
 For the external sources of recruitment ,they are associated with naukri.com, indeed.com,monster.com
 Some people join the organization with the help of advertisements in the newspapers or internet.

The HR structure of the companies seems to be acceptable by all. It is so depicted by the results that all the recruitment and selection policies, procedure and process is clearly defined.
 Digitally used platforms have immensely helped and eased the process – naukri, indeed and monster.

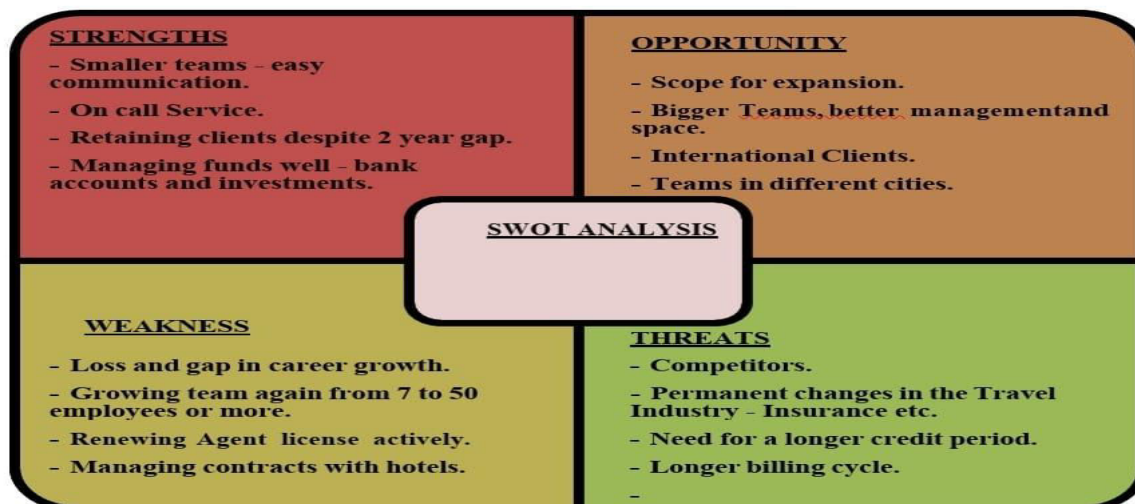




The time taken by the organization to respond to the applications dropped by the aspiring candidates and the interviewee's is mostly within a week i.e. they are prompt in replying to the candidates. Sometimes, due to some official reasons or because the post is at a higher position, due time is taken to make the decision, and the decision is taken by the authorities at the top.

FINDINGS

1. Mostly the method used for recruitment and selection of the employees at different levels are employee referrals and digital agencies.
2. The organization is quick in giving response.(less than 5days).
3. Generally, first telephonic interview and then if required personal interview method used for selection.
4. The relationship with the employees is good as there are employees working in the organization for more than 5 years.



CONCLUSION

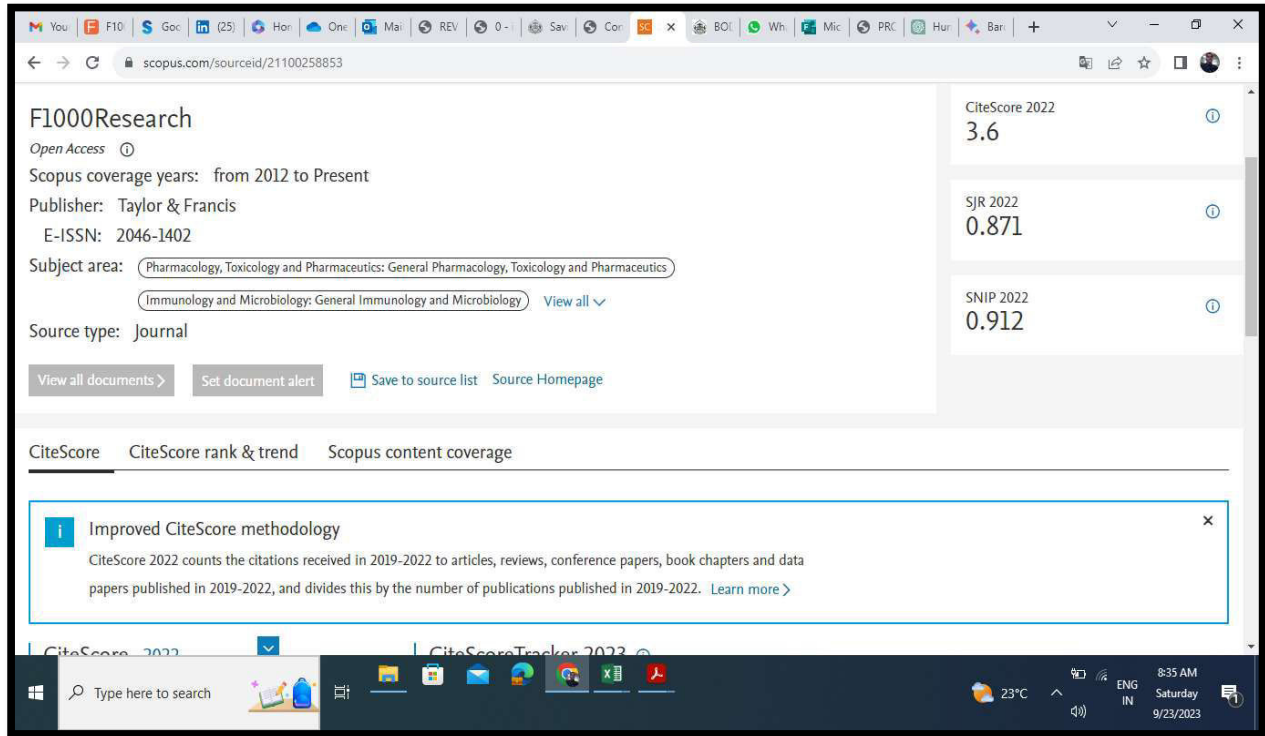
In conclusion, recruiting in the travel industry presents unique challenges and opportunities. The industry is dynamic and constantly evolving, requiring organizations to be agile and adaptable in their approach to recruitment. Factors such as the seasonality of the industry and the need for specialized skills make it essential for travel companies to have a well-defined recruitment strategy that leverages technology, social media, and other channels to attract and retain top talent. Overall, successful recruiting in the travel industry requires a holistic approach that considers the unique characteristics of the industry and leverages technology and innovative recruitment practices. By doing so, organizations can build a strong and talented workforce that can drive their business forward and deliver exceptional customer experiences.

References

1. Hosain, S. (2020). The Role of Social Media on Talent Search and Acquisition. Journal of Management and Science, 10(2), 68-77.
2. Fuller, J., Raman, M., Sage-Gavin, E., & Hines, K. (2021). Hidden Workers: Untapped Talent. Harvard Business Review.

3. Kohli, G. (2019). Talent Acquisition Latest Trends: A Review. *Journal of Emerging Technologies and Innovative Research*, 6(7), 284-288.
4. Zaccaro, S. J. (2014). The Search for Executive Talent: A Checklist. In SHRM Foundation's Effective Practice Guidelines Series: Understanding the Process and Setting it in Motion.
5. Baldo, C., Valle-Cabrera, R., & Olivas-Lujan, M. (n.d.). Executive recruitment triads from an agency theory perspective.
6. Lubbe, B. (2003). A Study of Corporate Travel Management in Selected South African Organisations and a Conceptual Model for Effective Corporate Travel Management. Department Tourism Management, University of Pretoria.
7. Kumbhar, V. M. (2015). Growth and Performance of Tourism Industry in India. Conference Paper. Karmaveer Bhaurao Patil University Satara (MS) India.
8. Parmar, A. A., & Shah, M. (2019). Role of Tourism Industry in Growth and Employment Generation of India. *International Journal of Innovative Research in Technology*, 5(6), 21-25.

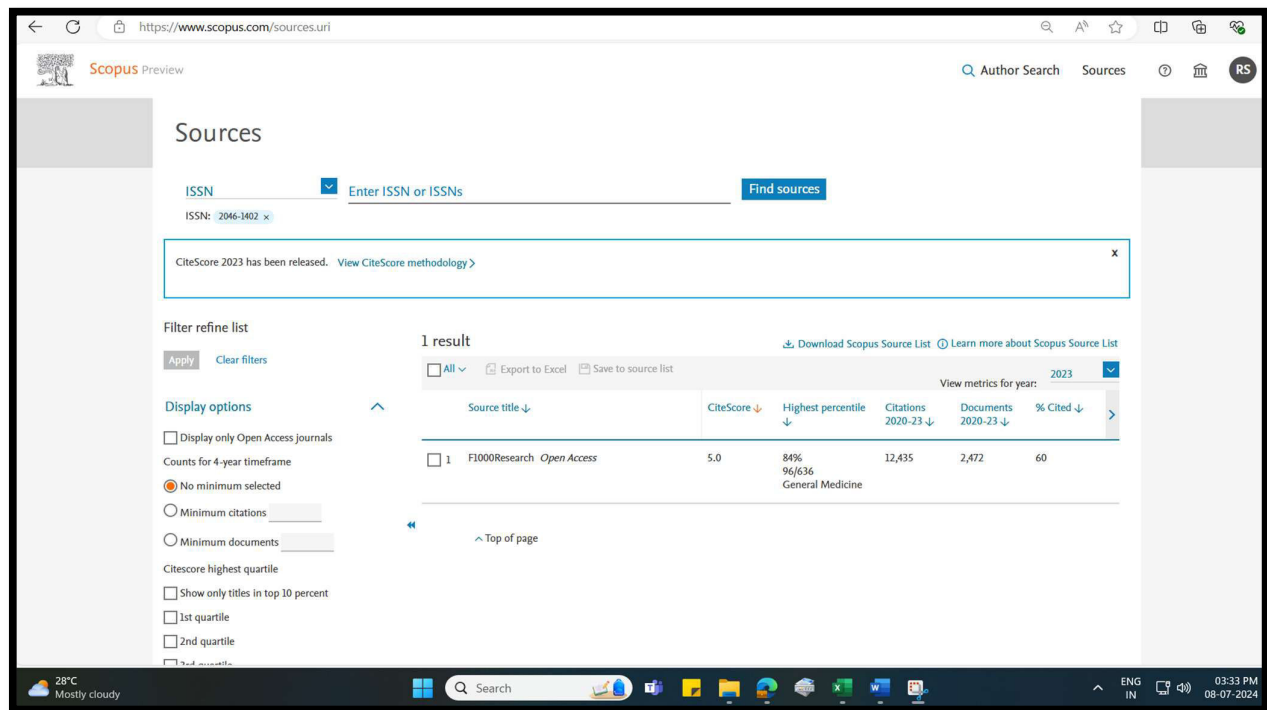
22. Corporate social responsibility & students' perceptions: evidence from Indian higher education institutions



The screenshot shows the Scopus source page for F1000Research. The page includes the following information:

- Source Name:** F1000Research
- Open Access:** Yes
- Scopus coverage years:** from 2012 to Present
- Publisher:** Taylor & Francis
- E-ISSN:** 2046-1402
- Subject area:** Pharmacology, Toxicology and Pharmaceutics: General Pharmacology, Toxicology and Pharmaceutics; Immunology and Microbiology: General Immunology and Microbiology
- Source type:** Journal
- CiteScore 2022:** 3.6
- SJR 2022:** 0.871
- SNIP 2022:** 0.912

Below the source information, there are buttons for "View all documents", "Set document alert", "Save to source list", and "Source Homepage". A notification banner at the bottom states: "Improved CiteScore methodology. CiteScore 2022 counts the citations received in 2019-2022 to articles, reviews, conference papers, book chapters and data papers published in 2019-2022, and divides this by the number of publications published in 2019-2022. Learn more >".



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RESEARCH ARTICLE

Corporate social responsibility & students' perceptions: evidence from Indian higher education institutions [version 1; peer review: awaiting peer review]

Premendra Kumar Singh ¹, Raju Ganesh Sunder ²,
Pravin Narayan Mahamuni ³, Elangbam Nixon Singh⁴, Bidhu Kanti Das⁵,
Anand G. Jumle⁶, Rajeshkumar Kashayp⁷

¹School of Online Education, Bharati Vidyapeeth (Deemed to be University), Pune, Maharashtra, 411030, India

²Center for Distance and Online Education, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, 442001, India

³Symbiosis School for Online and Digital Learning, Symbiosis International University, Pune, Maharashtra, 412115, India

⁴Finance Officer, Manipur University, Imphal, Manipur, 795003, India

⁵Department of Management, Mizoram University, Aizawl, Mizoram, 796004, India

⁶Indira College of Art, Commerce & Science, Pune, Maharashtra, 411033, India

⁷Sadhu Vaswani Institute of Management Studies for Girls, Pune, Maharashtra, 411041, India

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Abstract

Background: For many, the understanding of Corporate Social Responsibility (CSR) may sound a rather new topic, but it has been pondered upon by great thinkers of the world for many decades. The initial form of CSR was more of philanthropic which has become more of mandatory norm in Indian context. We believe the future of a nation are the youth of the nation and their perceptions on the matter of CSR are of great importance. Therefore, the purpose of the current study is to investigate the many viewpoints that students have about CSR and to determine whether or not socioeconomic characteristics (gender, age, professional experience, and academic degree) influence these views.

Methods: The research methodology comprises of utilization of an accepted scale (PRESOR) for collecting data of perception on CSR. Data was collected using an online questionnaire, distributed to students at Higher Educational Institutes of Northeast India. Responses from 272 students were received out of which we rejected unengaged responses of 25 students, and we continued with responses from 247 students. We have utilized Factor Analysis, Multivariate analysis of variance (MANOVA), t-test for the scrutinizing the collected data.

Results: The perceptions of students show a variety of dimensions, which may be categorised as: (a) value CSR, (b) against CSR, and (c) neutral to CSR. It is also found that the sociodemographic variables have a statistically significant influence on students' notion of CSR.

Open Peer Review

Approval Status AWAITING PEER REVIEW

Any reports and responses or comments on the article can be found at the end of the article.

Conclusions: This study is one of the first investigative works that has utilized modified PRESOR model for examining the perception of CSR in Indian context. The model was found to be fit to be used in Indian context. The study concluded that sociodemographic variables such as Age, Education, Professional Experience influences perception of CSR.

Keywords

Corporate Social Responsibility, Perceptions, Higher Educational Institutes.



This article is included in the **Datta Meghe Institute of Higher Education and Research** collection.

Corresponding author: Raju Ganesh Sunder (srajuganesh@dmher.edu.in)

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Introduction

Corporate social responsibility (CSR) has received symbolic recognition in the eyes of corporations, customers, and academic professionals due to the considerable societal consequences that corporations have (Džupina, 2016; Ortiz-Avram *et al.*, 2018; Schmidt and Craacu, 2018). Companies evolving progressively are mindful of the role of corporate social responsibility (CSR) in terms of global competitiveness (Petrović-Randelović *et al.*, 2015). This understanding allows them to concentrate not just on delivering profits, but also to make informed choices that are morally & socially acceptable to all concerned stakeholders, such as the community, the climate, and investors (Bir *et al.*, 2009; Teixeira *et al.*, 2018).

Regardless of the fact that there has been extensive research on CSR for more than five decades, (*e.g.*, Bowen, 1953; Davis, 1973), many academicians maintain to be interested in this area (*e.g.*, Burton & Goldsby, 2009; Ortiz-Avram *et al.*, 2018). Despite this, many respected academics have moved their attention from CSR to the achievement of corporations in the sphere of social responsibility (Wartick and Cochran, 1985) and how it affects the company's overall success (Ciampi, 2018; Waddock and Graves, 1997) and if CSR plays role in customer loyalty (Park and Kim, 2019). According to Maignan (2001), concerns pertaining to CSR, on the other hand, continue to be a subject of research that receives little attention. This is especially true with research on the perception that students have about CSR, particularly in the Indian context.

In simple terms, social responsibility may be viewed as a collection of a course of action adopted by corporations to boost economic, societal, and environmental situations, efforts that go above and beyond the requirements of law (Godfrey *et al.*, 2009). As a result, given the fact that responsibilities towards the society are gaining more and more significance in the corporate world, it is essential to explore the opinions of workers, executives, and entrepreneurs, or, more specifically, the perceptions of Higher Education Institutions (HEIs) students, on this aspect (Teixeira *et al.*, 2018).

A person's positive, negative or neutral perceptions of CSR are influenced by culture and the nation they are brought up in (Usunier and Lee, 2013). Available literature also shows that students from various cultural backgrounds have varied perspectives on CSR (Akbaş *et al.*, 2012; Pătări *et al.*, 2017; Wong *et al.*, 2010). The intention of this paper is to contemplate if students of India have different perceptions on understanding of CSR and also to substantiate if sociodemographic factors instigate students' perception on the area of CSR.

This paper initiates itself with a literature review indicating the applicability of the topic in Higher Education Institution (HE). This also comprises of the various important definition of CSR, the importance and actions leading to socially responsible actions apart from set of hypotheses and purpose of studying the students' perception on CSR. These are addressed by utilizing questions used earlier in a study which assessed students' notion of corporate social responsibility (Fitzpatrick, 2013; Teixeira *et al.*, 2018).

This study is conducted to investigate the perception by taking a representative sample of students from Indian Higher Education Institutions by employing the model proposed by Fitzpatrick (2013) and Teixeira *et al.* (2018) and utilized various univariate and multivariate statistical techniques that were most appropriate for the study's objectives.

CSR becomes a crucial business choice as a result of globalization's influence on the business, climatic and economic development (McGuire *et al.*, 1988) so that companies can meet the expectations of a wider range of customers and stakeholders (Dahlsrud, 2008). Corporations that practise corporate social responsibility (CSR) recognise that their actions have consequences for a wide range of people and places, including consumers, suppliers, workers, shareholders, communities, and the climate (Wymer and Rundle-Thiele, 2017). Although CSR is a hot issue, there are no mutual agreement on how the concept should be defined. This is because various scholars propose different definitions based on different aspects, with just a few sharing anything in common (Dahlsrud, 2008).

CSR seems like it ought to be part of the "triple bottom line," which holds that an organization's success is determined by three factors: its financial health, its commitment to the environment, and its impact on society (Zadek *et al.*, 2003). Thus, CSR has the potential to initiate corporate social progress, which can come in a variety of forms. Some of these forms include internal changes regarding manufacturing methods, minimised environmental impacts, increases in satisfaction among employees, and new interactions along the chain. Investments in the building infrastructure of local communities and growth of community-based activities are also possible outcomes of CSR (Aguilera *et al.*, 2007).

Therefore, companies need to integrate social consciousness into their overarching strategies by doing things like differentiating their goods depending on the social traits they possess. This will increase brand loyalty and establish the business as a trustworthy and ethical option for consumers (Siegel and Vitaliano, 2007).

The number of socially responsible investment funds has grown, and so has the amount of money invested in them, as noted by [Fitzpatrick \(2013, p. 86\)](#). CSR is a widely debated issue in the commercial and academic spheres because of its pervasiveness in today's global economy ([Doh and Guay, 2006](#)). [Carroll \(2016\)](#) argues that creativity, market distinctiveness, enthusiastic staff participation are the reasons for companies to adopt CSR whereas [Kurucz et al., 2009](#), suggest that cost and risk reductions, enhancement of competitive advantage, bolstering of firm legitimacy and reputation, and the creation of win-win scenarios for both the company and society are the reason why companies must accept and work towards the advancement of CSR. Companies should focus on producing value rather than merely following current procedures since there is a risk that huge corporations would engage in unethical behaviour in their pursuit of profit maximisation ([Santos, 2012](#)).

Although CSR has not yet permeated every sector of industry ([Sánchez-Hernández and Mainardes, 2016](#)), this topic is focus of fresh research from a wide range of institutions, most notably, Higher Education Institutes (HEI) ([Vallaeyts et al., 2009](#); [Vázquez et al., 2014, 2016](#)). [Vallaeyts et al., \(2009\)](#), defined CSR as competent leadership in all areas of educational institutions at a higher level (teaching, research, extension, and administration) is central to this approach. As a result, several universities' business programmes now emphasise ethical behaviour and accountability to society topics in their curriculum to better meet the needs of businesses and the community ([Assudani et al., 2011](#)).

In regard to Higher Education Institutions, CSR must include all phases of an institution's teaching, research, and knowledge transfer activities, including planning, design, implementation, and evaluation ([Esfijani et al., 2013](#)). The terminology "University Social Responsibility" (USR) refers to collective responsibilities of Higher Education Institutions in areas such as Increasing access to higher education, creating market-relevant curriculum, producing high-quality graduates, reducing waste, bolstering research capacity, and meeting other societal demands are all goals of changing the academic system ([Esfijani et al., 2013](#)). Institutions committed to morality, good administration, and ecological consciousness, social participation, and the promotion of values; HEIs shape society through educating its members and expanding their horizons via the dissemination of information ([Vallaeyts et al., 2009](#)).

Therefore, higher education institutions (HEI) are crucial in producing ethical and socially conscious business leaders ([Alsop, 2006](#)), and because of this reason an increase courses devoted to CSR is observed ([Wymer and Rundle-Thiele, 2017](#)). [Sánchez-Hernández & Mainardes \(2016\)](#) note that a combination of factors—including increased competitiveness and shifting demographics—has resulted in higher education institutions (HEIs) being increasingly student-centric.

Students' perceptions of corporate social responsibility

Given that corporate social responsibility (CSR) has grown in importance and relevance in the corporate world, studying the views of today's students—the employees, employers, and company owners of tomorrow - on the topic is intriguing ([Assudani et al., 2011](#), p. 103). As a result, HEIs should aid in the preparation of socially responsible persons by emphasising the significance of upholding ethical standards in the workplace ([Wymer and Rundle-Thiele, 2017](#)). It is because, according to these authors, "education on ethical topics increases moral cognition and deliberation" ([Lau, 2010](#)).

There has been some empirical work done to quantify students' a conscience of duty to others ([Elias, 2004](#)), several categories and dimensions can be identified as a result ([González-Rodríguez et al., 2013](#)). Despite widespread agreement that CSR helps businesses thrive and raises their profile in the public eye, and despite CSR's maturation into a useful strategic tool, opinions on it among students are split ([Mcguire et al., 1988](#); [Schmidt & Cracau, 2018](#); [Ugwuzor, 2020](#)).

The distinct aspects of the social responsibility identified included charity ([Akbaş et al., 2012](#); [Wong et al., 2010](#)); statutory mandates or duty to obey the law ([Akbaş et al., 2012](#); [Arli et al., 2014a](#); [Wong et al., 2010](#)); edge over competitors through innovation and continuous learning; economic & ethical commitment ([Akbaş et al., 2012](#); [Arli et al., 2014a](#)). Also, studies employing the PRESOR instrument reveal that profit, longevity, and rapid growth are all characteristics of ethical behaviour ([Elias, 2004](#); [Fitzpatrick, 2013](#); [Singhapakdi et al., 1996](#)).

However, when more instances of corporate hypocrisy are brought to light, customers acquire a natural mistrust towards the CSR promises made by businesses ([Connors et al., 2017](#)). This is even though consumers' perspectives could vary since CSR has developed at various rates in Western countries and in Eastern countries, and even within regions ([González-Rodríguez et al., 2013](#)). As a result, certain aspects of CSR views that are identified in the literature that are not in a good light. One such aspect is the prevalent assumption that businesses may enhance their image if they are sensitive to concerns raised by the public ([Wals, 2007](#)). Therefore, CSR may be perceived as a manufactured performance; in addition, students who embrace the principles of altruism are more likely to have good opinions of CSR than students who adopt self-centred values ([Pătări et al., 2017](#)).

Therefore, the plethora of previously listed notions proves that there is no mutual acceptance on how CSR ought to be defined as the preceding examples of overlapping ideas, investigation of the likelihood that there is a plurality of elements in this material might benefit by identifying the many characteristics that influence students' views of CSR. Within this context, we propose the following hypothesis in light of the research demonstrating that students' attitudes of corporate social responsibility are influenced by their nationality (Pätäri *et al.*, 2017; Wong *et al.*, 2010) as well as the fact that the study conducted by Fitzpatrick (2013) at an American higher education institution did not investigate the many facets that influence students' views of CSR.

Hypothesis 1: Students' perceptions of CSR can be considered in different dimensions, including having supporting perception about CSR, negative perception or maybe neutral positioning.

In conjunction with the uniqueness of each nation's culture and set of natural advantages, sociodemographics are taken into account as a factor that might affect how people view CSR and ultimately shape their moral judgements (Arli *et al.*, 2014b; Fitzpatrick, 2013; González-Rodríguez *et al.*, 2013; Wong *et al.*, 2010). When examining students' perspectives on CSR, we may generalise about the effects of sociodemographic factors play a role in shaping how students feel about the organization's commitment to social and environmental responsibility (Fitzpatrick, 2013; Ugwuozor, 2020). These studies allow us to formulate the suggested hypothesis:

Hypothesis 2: Sociodemographic students' characteristics can influence their perception of CSR

Methods

As the research was conducted on the students in order to measure their perceptions, necessary approval was taken from the ethical committee. The Human Ethics Committee of Mizoram University, India in their letter, bearing the reference number MZU/HEC/2023/011, dated 04.07.2023 reviewed the questionnaire and proposal and approved the collected data for further processing.

The questionnaire, which was provided to the students, clearly mentioned that the "The information given by student will be used for academic purpose only" and the students agreeing to this statement have filled up the questionnaire.

In order to determine whether or not the hypotheses proposed are valid, a quantitative approach was utilised. The motive is to have an insight and determine whether students' perceptions in the present study may be linked to other variables and to assess the influence of sociodemographic attributes in their perceptions of issues pertaining to CSR and other social concerns.

For measuring the students' perceptions, a slightly modified version of PRESOR, which was initially designed to assess the views of marketers' perception with relation to the significance in terms of morality and civic duty (Singhapakdi *et al.*, 1996) and was then used by (Fitzpatrick, 2013; Teixeira *et al.*, 2018) to measure the perception of students about CSR was adopted.

Perceived Role of Ethics and Social Responsibility (PRESOR), a measurement having three major dimensions namely Social Responsibility and Profitability, Long Term and Short-Term Gains was developed with potentials of supplementing in making concrete decision in situations which involves ethical and social issues (Singhapakdi *et al.*, 1996). The scale was modified and was adapted to investigate how gender, job experience, and spirituality impact students' opinions of corporate social responsibility (CSR) (Fitzpatrick, 2013). On the basis of the same adapted scale (Teixeira *et al.*, 2018), investigated the many views that students hold on CSR, therefore giving a platform with an accepted scale for measurement of CSR perceptions which are shown in **Table 2, underlying data** and on basis of prior research, the relations that are mentioned in Table 1, **underlying data** was expected to be found. All Tables can be found as *Underlying data* (Sunder, 2023).

The data was collected from students of Master of Business Administration (MBA) & Bachelor of Business Administration (BBA) from the various reputed Central Universities, State Universities and Private Universities in the North-eastern States of India between April to September 2022. Online Survey method was deployed as it can have a larger reach and higher number of responses could be collected. Responses from 272 students were received out of which 25 responses were filtered out because of unengaged responses and we continued with a total of 247 responses which were collected by convenience sampling through a well-structured 16 questions Likert scale-based survey plus five demographic questions.

The data that was obtained was evaluated employing IBM SPSS statistics version 21, included both univariate analyses, such as descriptive analysis, t-tests, and Pearson tests, and multivariate analyses, which included confirmatory factor

analysis and Multivariate analysis of variance (MANOVA), were performed. The selection of the aforementioned statistical methods was guided by the proposed study framework as depicted in **Table 1, underlying data** (Sunder, 2023).

Table 3, underlying data (Sunder, 2023) represent while most students (89.1%) were in the age range 17 and 26, responses came from students as young as 17 and as old as 50. It was estimated that about 93% of the students were unmarried, while the residual 7% were married. Most respondents (54.3%) had some bachelor's degree, while 4.9% having earned a master's degree and 40.9% obtained professional courses. Regarding employment, 75.3% of respondents were enrolled as full-time students while 12.1% were working full-time (student worker).

Results

Complementary to study of Fitzpatrick, (2013) and Teixeira *et al.*, (2018), Table 2, underlying data takes into account and compiles students' judgment of CSR in this study (Sunder, 2023).

The same table presents the means and is viable to deduce that statements with the higher means are the statements which support CSR, for instance, perceptions 15, 6, 4, 1 and 11. On the contrary, perceptions 5, 8 and 13, with lower average suggests that CSR is not a significant choice that companies should address.

Taking into consideration the above findings, Factor Analysis was conducted on the perception of the students about CSR to deduce the dimensions to meet our first objective of the study.

The value of Kaiser-Meyer-Olkin (KMO) computed was 0.914, which indicates that the sample size is suitable for carrying out factor analysis. On top of that, significance level of the Bartlett Test is 0 (0.000), which means that the sample is suitable for this method at a significance level of 1%. Table 4, underlying data shows the results, and in particular when individual MSA values are considered, it becomes clear that the samples were sufficiently representative, as there is no parameter with an MSA score below 0.5 (Sunder, 2023). As a consequence, all of these factors are deemed crucial to the investigation, and they have enough properties with the order variables for viability metrics to be produced from them. The values of the rotated components demonstrate that the variables are associated to one another, with the three extracted constructs having a variation explained by the factors that accounts for about 56% of the variance of the overall variance involving the variables. Using the factor analysis shown in Table 4, underlying data (Sunder, 2023) and drawing on earlier explanation of PRESOR (Fitzpatrick, 2013; Singhapakdi *et al.*, 1996), we may deduce that there are three distinct dimensions at play here: component 1 contains positive views of CSR (averaging 5.16), component 2 comprised negative perceptions of CSR (averaging 4.16), and factor 3 comprises neutral perceptions of CSR (averaging 4.68).

Since the values in **Table 4** are more than 0.60 (Sunder, 2023), suggesting that the measures are trustworthy, a reliability study utilising the Cronbach's Alpha coefficient may be employed to validate the results of the confirmatory factorial analysis (Nunnally and Bernstein, 1994; Pallant, 2001). As the questions were adopted, we did not do exploratory factor analysis, but to see if the model fits a different geographical location, Confirmatory Factor Analysis was conducted by making use of IBM SPSS Amos version 21 software to evaluate the model fit by utilizing the plugin "Model Fit Measure" (Gaskin and Lim, 2016). A satisfactory match with the model was observed by various indicatives namely CFI = 0.936; CMIN/DF = 2.512; RMSEA = 0.078; SRMR = 0.066 which is in line with the cutoff criteria of good fit values suggested by Hu & Bentler, (1999).

Because of this, it is feasible to draw the conclusion, on the basis of the findings of the factor analysis, that the results of these views demonstrate that there are several ways in which students understand CSR, and that CSR is not universally seen as a major regard for businesses. Therefore, the first goal was successfully completed, and **hypothesis 1** was verified.

To understand if the sociodemographic variables taken in the research have any impact on the notion of students about CSR, Pearson Correlation investigation into whether or not any correlation reside between the variables under study. Students' views on CSR were broken down into their constituent dimensions through factor analysis, and a correlation test was run between these elements and sociodemographic factors. The correlation test at 5% significance level reflects relationship between the dimensions of student perception about CSR and the sociodemographic characteristics which is contrary to the findings of (Teixeira *et al.*, 2018). Positive correlation is observed between the three dimensions of CSR: positive attitudes towards CSR, attitudes that cast doubt on the significance of CSR, and the prioritisation of business activities that push CSR to the back burner and the sociodemographic characteristics in the context of Indian students. It is not statistically significant that if there is any correlation between variable age and civil Status and the three dimensions of CSR perception.

In order to address to the other hypotheses which were related to the sociodemographic variables, we used MANOVA for those hypotheses testing where the independent variables were Age, Academic Degree and Experience and t-test was conducted on the variables which had only two options namely Gender and Civil Status. The use of MANOVA was preferred over using multiple ANOVAs to test statistical significance difference between several groups (Marocco, 2003). For the purpose of MANOVA, the reduced dimensions were used as the dependent variables and the sociodemographic variables were considered as independent variables. But before the hypotheses were tested, assumptions of multivariate analysis of variance (MANVOA) namely multivariate normality, homoscedasticity and existence of correlation between the independent variables were fulfilled as depicted in **Table 5** (Sunder, 2023).

Addressing hypothesis 2.1, "The influence of age on students' perceptions of CSR," the Wilks' Lambda = 0.907, $F(15, 660) = 1.578$, $p = 0.074$, illustrates that the dependent variable has a statistically significant impact on the independent factors at a significance level of 10%. However, the Test of Between Subjects Effects reflects that the first reduced dimension is significant at 10% level, instead of one-way ANOVA we did a Levene's test of equality of error variances and it was found to be insignificant. We did a Scheffe Post-hoc test to confirm the findings and it was confirmed that there was no significant difference between age interval and the reduced dimensions. As all the values are greater than 0.10, the results show no significant differences across age groups. Therefore, we conclude that age positively influences students' perception of CSR.

For Hypothesis 2.2, we used MANOVA again and the values of Wilks' Lambda = 0.951, $F(6, 484) = 2.032$, $p = 0.060$, indicates that the dependent variable has a statistically significant impact on the independent factors at a significance level of 10%. Levene's test was conducted and it was found to be insignificant, which meets the presumption of homogeneity of variance. The output of the Test of Between Subjects Effects reflects significant difference between second and third reduced dimension. Based on the contrast results upon comparison of undergraduate and professional technical courses there was significant difference in all the three reduced dimensions. Therefore hypothesis 2.2 *i.e.*, "academic degree positively influences the students' perceptions of CSR" is accepted.

For the hypothesis 2.3, we continued with MANOVA and it was observed that, the Wilks' Lambda = 0.919, $F(12, 635) = 1.515$, $p = 0.060$ was observed which implies that the dependent variables have statistically significant effect on the independent variables at 10% significance level. Besides that, the Levene's test (used in place of ANOVA) reflects insignificant values and the p-values of Test of Between Subjects Effects were all insignificant implying that the hypothesis is accepted: "professional experience positively influence the students' perception of CSR".

To test hypothesis 2.4 and 2.5, We conducted t-tests to look at whether or not there is a correlation amongst students' views on CSR and their gender, civil status, comparison is made between the means of the two groups taking into consideration three reduced dimensions. The Levene's test in all the dimensions are insignificant implying that the equality of variances is verified and the insignificant p-value presented in the t-test concludes that no statistical difference prevails among gender, civil status and students' perception of CSR thereby rejecting the hypothesis 2.4 & hypothesis 2.5.

Discussion & conclusions

A primary goal of this study was to see if students' perspectives of CSR were different from one another, and a preliminary examination of the means of the students' replies concerning perceptions suggested that there were really two unique groups of students' perceptions. Individuals may be roughly divided into two groups: those who did better overall and who tend to have more positive views of CSR, and those who did worse overall and who reject these views.

Accordingly, the analysis is expected to support the first hypothesis, "Students' perceptions about CSR can be considered in different dimensions," which affirm the outcomes of the literature review, particularly regarding, that students are mindful of morally as well as socially accountable practises/strategies but are not necessarily making responsible decisions and assert behaviour that contribute to the betterment of community (Assudani *et al.*, 2011). Factor analysis findings, which delineated three main aspects in students' opinions of CSR, confirm the findings that Students' perceptions about CSR can be considered in different dimensions.

According to the available data, most students have favourable opinions on sustainability and CSR initiatives (Bahae *et al.*, 2014). High social perceptions are associated with CSR because the new age of human values is linked with things like harmony, standard of living, environmental considerations, care for and concern for others' well-being (González-Rodríguez *et al.*, 2013). Our first derived dimension, pro-CSR attitudes, has a mean score of 5.16, corroborating findings from the studies that CSR is seen as a crucial vital decision, providing growing and positive prerequisite to businesses (Mcguire *et al.*, 1988) which is effective for organizations eminence (Gallardo-Vázquez and Sanchez-Hernández 2014).

There are certain less favourable impressions of CSR that may drive people into adopting a poor consciousness while processing CSR information. This is since consumer cynicism has a significant repercussion on the attitudes and perceptions of customers (Connors *et al.*, 2017). The second component addresses attitudes that call into question the significance of CSR and address beliefs that are resistive to CSR. According to the findings of Wymer and Rundle-Thiele, 2017, about only one third of the universities are offering courses that are related to the sustainability. This might be related to the notion that HEI's implementation of a responsible education framework is still in its early stages. Students may not be aware of this problem due to the fact that there is a significant lack of expertise amid educators regarding the value of CSR, their unpreparedness for educating ethics and doubt their ability to influence how students make moral decisions (Wymer and Rundle-Thiele, 2017).

In the third and final component, company prioritisation is discussed. While it's true that offering products or services with a solid reputation may provide a business an edge in the marketplace, (Brei and Böhm, 2011), the responses to this component place corporate social responsibility in a secondary plan, in the background, with an average score of 4.68. Many of these students believe that corporate social responsibility (CSR) should take a back seat; a socially conscious business, in their eyes, is one that puts its money where its mouth is in terms of helping people and the planet; as a result, the principal management policy of maximisation of wealth is called into question by the expenses associated with socially conscious conduct (Wymer and Rundle-Thiele, 2017). Decisions are skewed in favour of CSR because managers are motivated by a pursuit of power, control, and riches rather than by considerations of ethics and social responsibility. Therefore, CSR is given top priority only if it is expected to generate a financial return and advance the company's objectives (Giacalone and Thompson, 2006).

With regard to the study's secondary goal, which is to determine how students' demographic information affects their views on CSR, differentiation based on age, level of education, and professional experience was supported by the data in this study, which strongly indicates that students' CSR perceptions is influenced by the sociodemographic variables which is in line with the findings of (Almutawa and Hewaidy, 2020) and is in contradiction to the findings of (Anand and Singh, 2021; Burcea and Marinescu, 2011; Pătări *et al.*, 2017; Teixeira *et al.*, 2018; Ugwuozor, 2020). Whereas the t-tests on gender and civil status depicted that there is no statistical relationship between these two variables and the reduced dimensions of students' impression of CSR which is in line with finding of (Almutawa and Hewaidy, 2020; Chan *et al.*, 2021).

In a nutshell, we may remark the presence of three main aspects of students' perspectives: i) value CSR, ii) against CSR, and iii) neutral to CSR, and we can claim that positive attitudes to CSR offer the greatest average, suggesting that, generally speaking, students appreciate CSR. Thus, the majority of people agree that CSR is crucial, yet different people have different conceptions about what it entails. What's more, the findings demonstrate that there are no statistically significant variations in students' perspectives on CSR across demographic characteristics including age, gender, educational attainment, and professional experience.

The management implications of this study for higher education institutions are substantial. In their roles as future workers, business owners, and customers, students play an essential role in assessing the effectiveness of CSR actions. Distributing sustainable production and consuming practises will influence transitions toward a more sustainable activity (Pülzl *et al.*, 2014), and the youths have the potential to be extremely major Influencers on society (Pătări *et al.*, 2017). It is of the utmost importance to comprehend and foresee how the students' moral and environmentally conscious actions will develop in their future roles as staff members, managers, and business owners, as well as in the context of their customer roles.

The quantity of participants in the study is one of the constraints of the study as HEIs considered for the data collections were limited to a specific region of the country and the sample size may be considered too little to draw any firm conclusions. Therefore, to have a better perspective of whether the hypotheses that were provided in this work would lead to different results, potential future research may entail a sample that is both more complete and more varied. This would require extending to include new HEIs as well as students of varying ages and regions.

Data availability

Underlying data

Zenodo: Corporate Social Responsibility & Students' Perceptions: Evidence from Indian Higher Education Institutions. <https://doi.org/10.5281/zenodo.8328583> (Sunder, 2023).

This project contains the following underlying data:

- Blank Instrument.doc

- Coding File.csv
- Data File.csv
- Raw Data.csv
- Table 1 - Methodology
- Table 2 - Affirmations on CSR under study
- Table 3 - Characterization of the Sample
- Table 4 - Factor Analysis Results
- Table 5 - Validation of the assumptions of MANOVA

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](#) (CC-BY 4.0).

References

- Aguilera Rv, Rupp DE, Williams CA, *et al.*: **Putting the S back in corporate social responsibility: A multilevel theory of social change in organizations.** *Acad. Manag. Rev.* 2007; **32**(3): 836–863. Academy of Management.
[Publisher Full Text](#)
- Akbaş HE, Çalıřkan AÖ, Esen E: **An Investigation on Turkish Business and Economics Students' Perception of Corporate Social Responsibility.** *Journal of Accounting & Taxation Studies (JATS).* 2012; **5**(3): 69–80.
- Alsop R. J.: **Business ethics education in business schools: A commentary—.** *J. Manag. Educ.* 2006; **30**(1): 11–14.
[Reference Source](#)
- Almutawa A, Hewaidy AM: **Accounting Students' Perception of Corporate Social Responsibility: Evidence from Kuwait.** *International Journal of Innovation, Creativity and Change.* 2020; **14**.
[Reference Source](#)
- Anand M, Singh J: **Business students' perception of corporate social responsibility: an exploratory study.** *Decision.* 2021; **48**(3): 261–284.
[Publisher Full Text](#)
- Arli D, Bucic T, Harris J, *et al.*: **Perceptions of Corporate Social Responsibility Among Indonesian College Students.** *J. Asia Pac. Bus.* 2014a; **15**(3): 231–259. Routledge.
[Publisher Full Text](#)
- Arli D, Bucic T, Harris J, *et al.*: **Perceptions of Corporate Social Responsibility Among Indonesian College Students.** *J. Asia Pac. Bus.* 2014b; **15**(3): 231–259.
[Publisher Full Text](#)
- Assudani RH, Chinta R, Manolis C, *et al.*: **The effect of pedagogy on students' perceptions of the importance of ethics and social responsibility in business firms.** *Ethics Behav.* 2011; **21**(2): 103–117.
[Publisher Full Text](#)
- Bahaee M, Perez-Batres LA, Pisani MJ, *et al.*: **Sustainable development in Iran: An exploratory study of university students' attitudes and knowledge about sustainable developmenta.** *Corp. Soc. Responsib. Environ. Manag.* 2014; **21**(3): 175–187. John Wiley and Sons Ltd.
[Publisher Full Text](#)
- Bir SÇ, Suher İK, Altınbaşak I: **Corporate Social Responsibility Orientation and Employer Attractiveness.** *Journal of Yasar University.* 2009; **4**(15): 2303–2326.
- Bowen HR: *Social Responsibilities of the Businessman.* Harper; 1953.
[Reference Source](#)
- Brei V, Böhm S: **Corporate social responsibility as cultural meaning management: A critique of the marketing of 'ethical' bottled water.** *Business Ethics.* 2011; **20**(3): 233–252.
[Publisher Full Text](#)
- Burcea M, Marinescu P: **Students' Perceptions on Corporate Social Responsibility at the Academic Level. Case Study: The Faculty of Administration and Business, University of Bucharest.** *Amfiteatru Economic Journal.* 2011; **13**(29): 207–220.
- Burton BK, Goldsby M: **Corporate social responsibility orientation, goals, and behavior: A study of small business owners.** *Bus. Soc.* 2009; **48**(1): 88–104. SAGE Publications Ltd.
[Publisher Full Text](#)
- Carroll AB: **Carroll's pyramid of CSR: taking another look.** *Int. J. Corp. Soc. Responsib.* 2016; **1**(1).
[Publisher Full Text](#)
- Chan TJ, Huam HT, Sade AB: **Students' Perceptions on the University Social Responsibilities of a Malaysian Private University: Does Gender Matter?** *International Journal of Academic Research in Business and Social Sciences.* 2021; **11**(9). Human Resources Management Academic Research Society (HRMARS).
[Publisher Full Text](#)
- Ciampi F: **Using Corporate Social Responsibility Orientation Characteristics for Small Enterprise Default Prediction.** *WSEAS Trans. Bus. Econ.* 2018; **15**: 113–127.
- Connors S, Anderson-MacDonald S, Thomson M: **Overcoming the 'Window Dressing' Effect: Mitigating the Negative Effects of Inherent Skepticism Towards Corporate Social Responsibility.** *J. Bus. Ethics.* 2017; **145**(3): 599–621. Springer Netherlands.
[Publisher Full Text](#)
- Dahlsrud A: **How corporate social responsibility is defined: An analysis of 37 definitions.** *Corp. Soc. Responsib. Environ. Manag.* 2008; **15**(1): 1–13.
[Publisher Full Text](#)
- Davis K: **The Case for and against Business Assumption of Social Responsibilities.** *Acad. Manag. J.* 1973; **16**.
- Doh JP, Guay TR: **Corporate Social Responsibility, Public Policy, and NGO Activism in Europe and the United States: An Institutional-Stakeholder Perspective.** *J. Manag. Stud.* 2006; **43**(1): 47–73.
[Publisher Full Text](#)
- Džupina M: **A Theoretical Study on Cross-National Differences on Corporate Social Responsibility Orientation (CSRO).** *Eur. J. Sci. Theol.* 2016; **12**.
[Reference Source](#)
- Elias RZ: **An Examination of Business Students' Perception of Corporate Social Responsibilities Before and After Bankruptcies.** *J. Bus. Ethics.* 2004; **52**: 267–281.
[Publisher Full Text](#)
- Esfijani A, Hussain FK, Chang E: **University social responsibility ontology.** *Int. J. Intell. Syst.* 2013; **21**(4): 271–281.
[Reference Source](#)
- Fitzpatrick J: **Business students' perceptions of corporate social responsibility.** *Coll. Stud. J.* 2013; **47**(1).
- Gaskin J, Lim J: **Model Fit Measures.** *Gaskination's StatWiki.* 2016.
- Gallardo-Vázquez D, Sanchez-Hernandez MI.: **Measuring Corporate Social Responsibility for competitive success at a regional level.** *J. Clean. Prod.* 2014; **72**: 14–22.
[Reference Source](#)

- Giacalone RA, Thompson KR: **Business Ethics and Social Responsibility Education: Shifting the Worldview.** *Acad. Manag. Learn. Edu.* 2006; **5**(3): 266–277.
[Publisher Full Text](#)
- Godfrey PC, Merrill CB, Hansen JM: **The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis.** *Strateg. Manag. J.* 2009; **30**(4): 425–445.
[Publisher Full Text](#)
- González-Rodríguez MR, Díaz-Fernández MC, Pawlak M, et al.: **Perceptions of students university of corporate social responsibility.** *Qual. Quant.* 2013; **47**(4): 2361–2377. Kluwer Academic Publishers.
[Publisher Full Text](#)
- Hu LT, Bentler PM: **Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives.** *Struct. Equ. Model.* 1999; **6**(1): 1–55.
[Publisher Full Text](#)
- Kurucz EC, Colbert BA, Wheeler D: **The Business Case for Corporate Social Responsibility.** *The Oxford Handbook of Corporate Social Responsibility.* Oxford University Press; 2009.
[Publisher Full Text](#)
- Lau CLL: **A step forward: Ethics education matters!** *J. Bus. Ethics.* 2010; **92**(4): 565–584.
[Publisher Full Text](#)
- Maignan I: **Consumers' Perceptions of Corporate Social Responsibilities: A Cross-Cultural Comparison.** *J. Bus. Ethics.* 2001; **30**: 57–72.
[Publisher Full Text](#)
- Maroco J: *Análise Estatística.* Lisboa: Edições Sílabo; 2nd ed 2003.
- McGuire JB, Sundgren A, Schneeweis T: **Corporate Social Responsibility and Firm Financial Performance.** *The Academy of Management Journal.* 1988; **31**(4): 854–872.
[Reference Source](#)
- Nunnally J, Bernstein I: *Psychometric Theory.* 3rd ed. McGraw-Hill; 1994.
- Ortiz-Avram D, Domnanovich J, Kronenberg C, et al.: **Exploring the integration of corporate social responsibility into the strategies of small- and medium-sized enterprises: A systematic literature review.** *J. Clean. Prod.* 2018 10 November; **201**: 254–271. Elsevier Ltd.
[Publisher Full Text](#)
- Pallant J: *SPSS Survival Manual - a Step by Step Guide to Data Analysis Using SPSS for Windows.* England: Buckingham Open University Press; 2001.
- Park E, Kim KJ.: **What drives "customer loyalty"? The role of corporate social responsibility.** *Sustain. Dev.* 2019; **27**(3): 304–311.
[Reference Source](#)
- Pätäri S, Arminen H, Albareda L, et al.: **Student values and perceptions of corporate social responsibility in the forest industry on the road to a bioeconomy.** *Forest Policy Econ.* 2017; **85**: 201–215. Elsevier B.V.
[Publisher Full Text](#)
- Petrović-Randelović M, Stevanović T, Ivanović-Đukić M: **Impact of Corporate Social Responsibility on the Competitiveness of Multinational Corporations.** *Procedia Economics and Finance.* 2015; **19**: 332–341.
[Publisher Full Text](#)
- Püzl H, Kleinschmit D, Arts B: **Bioeconomy - an emerging meta-discourse affecting forest discourses?** *Scand. J. For. Res.* 2014; **29**(4): 386–393. Taylor and Francis AS.
[Publisher Full Text](#)
- Sánchez-Hernández MI, Mainardes EW: **University social responsibility: a student base analysis in Brazil.** *International Review on Public and Nonprofit Marketing.* 2016; **13**(2): 151–169. Springer Verlag.
[Publisher Full Text](#)
- Santos FM: **A Positive Theory of Social Entrepreneurship.** *J. Bus. Ethics.* 2012; **111**(3): 335–351.
[Publisher Full Text](#)
- Schmidt MA, Cracau D: **A cross-country comparison of the corporate social responsibility orientation in Germany and Qatar: An empirical study among business students.** *Bus. Prof. Ethics J.* 2018; **37**(1): 67–104. Philosophy Documentation Center.
[Publisher Full Text](#)
- Siegel DS, Vitaliano DF: **An empirical analysis of the strategic use of corporate social responsibility.** *J. Econ. Manag. Strateg.* 2007; **16**(3): 773–792.
[Publisher Full Text](#)
- Singhapakdi A, Vitell SJ, Rallapalli KC, et al.: **The Perceived Role of Ethics and Social Responsibility: A-Scale Development.** *J. Bus. Ethics.* 1996; **15**: 1131–1140.
[Publisher Full Text](#)
- Sunder RG: **Corporate Social Responsibility & Students' Perceptions: Evidence from Indian Higher Education Institutions (Version v1).** [Dataset]. Zenodo. 2023.
[Publisher Full Text](#)
- Teixeira A, Ferreira MR, Correia A, et al.: **Students' perceptions of corporate social responsibility: evidences from a Portuguese higher education institution.** *International Review on Public and Nonprofit Marketing.* 2018; **15**(2): 235–252. Springer Verlag.
[Publisher Full Text](#)
- Ugwuzor FO: **Students' perception of corporate social responsibility: Analyzing the influence of gender, academic status, and exposure to business ethics education.** *Business Ethics: A European Review.* 2020; **29**(4): 737–747. John Wiley & Sons, Ltd.
[Publisher Full Text](#)
- Usunier J-C, Lee JA: *Marketing Across Cultures.* United Kingdom: Pearson; 2013.
- Vallaey F, de la Cruz C, Sasia PM: *Responsabilidad Social Universitaria: Manual de Primeros Pasos.* McGRAW-HILL INTERAMERICANA; 2009.
- Vázquez JL, Aza CL, Lanero A: **Are students aware of university social responsibility? Some insights from a survey in a Spanish university.** *International Review on Public and Nonprofit Marketing.* 2014; **11**(3): 195–208. Springer Verlag.
[Publisher Full Text](#)
- Vázquez JL, Aza CL, Lanero A: **University social responsibility as antecedent of students' satisfaction.** *International Review on Public and Nonprofit Marketing.* 2016; **13**(2): 137–149. Springer Verlag.
[Publisher Full Text](#)
- Waddock SA, Graves SB: **THE CORPORATE SOCIAL PERFORMANCE-FINANCIAL PERFORMANCE LINK.** *Strateg. Manag. J.* 1997; **18**(4): 303–319.
[Publisher Full Text](#)
- Wals AEJ: *Social Learning towards a Sustainable World.* Wageningen: Wageningen Academic Publishers; 2007.
- Wartick SL, Cochran PL: **The Evolution of the Corporate Social Performance Model Author(s).** *Acad. Manag. Rev.* 1985; **10**(4): 758–769.
[Publisher Full Text](#)
- Wong A, Long F, Elankumaran S: **Business students' perception of corporate social responsibility: The United States, China, and India.** *Corp. Soc. Responsib. Environ. Manag.* 2010; **17**(5): 299–310.
[Publisher Full Text](#)
- Wymer W, Rundle-Thiele SR: **Inclusion of ethics, social responsibility, and sustainability in business school curricula: a benchmark study.** *International Review on Public and Nonprofit Marketing.* 2017; **14**(1): 19–34. Springer Verlag.
[Publisher Full Text](#)
- Zadek S, Sabapathy J, Døssing H, et al.: *Responsible Competitiveness Responsibility Clusters in Action.* United Kingdom: Copenhagen Centre; 2003.

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