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FACULTY OF MANAGEMENT STUDIES (FMS)
(An ISO 9001:2015 certified)

GURUKULA KANGRI (DEEMED TO BE UNIVERSITY), HARIDWAR-249404 (U.K.) INDIA
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GURUKUL BUSINESS REVIEW (GBR)

Faculty of Management Studies (FMS) Gurukula Kangri (Deemed to be University), Haridwar-249404, Uttarakhand (India) Tele. : 7455025010 Visit us at : http://www.gurukulbusinessreview.in, Email: gbr@gkv.ac.in

From The Desk Of The Editor

Greetings and best wishes,

Time flies, after Nineteen years of regular publication 20th issue of Gurukul Business Review (GBR), 2024 is tabled for you all. Let me start with reminding you about the transformation GBR went through:

- Now the GBR has its own dedicated website www.gurukulbusinessreview.in
- The paper submission process is now online through the website mentioned.
- The abstract in the paper needs to be in a structural format (check author's section and manuscript requirements on the website).
- The referencing style has changed, earlier we use to refer APA but now we follow the Harvard style of referencing (For details, please visit the website of the journal).
- GBR follows the Committee on Publication Ethics (COPE) guidelines. GBR has adopted COPE's best practice guidelines for dealing with ethical issues in a journal.
- A gentle reminder on payment policy of GBR. The journal does not charge any fee from the authors for publication. However, to subscribe it within India, you have to bear a nominal cost of Rs 200/Annually for Institutions, Rs 100/Annually for Individuals and Rs 75 for Alumni. The subscription fee for bodies outside India is $15 Annually.
- One of the refreshing news for the stakeholders of GBR is that now we are indexed in two more databases. One Web of Science Group (ESCI) and second, Indian Citation Index (ICI) other than Cabell's Directory, Inc., and J-GATE online database, recently got inducted in Scope Database.
- The journal impact factor has climbed to 2.82 from 0.75, courtesy IIFS.
- Since volume 16, GBR has also begun assigning DOIs to all articles published online and print.

One of the prime reasons for the structural change is to meet the international standards and UGC guidelines, and be progressive in the competitive world of publication. The result was the indexing of GBR in above mentioned databases of international repute. To maintain the progress, we are now targeting SCOPUS and Emerald. With your wishes and quality research papers hope we will be able to make it in coming years.

The 20th issue of GBR received papers from India and abroad, touching the themes emotional dissonance, organizational culture, managerial effectiveness and marketing dynamic capabilities. This year we received a total of 196 papers out of which 82 were desk rejected (due to not meeting the minimum standard of GBR), 114 papers went for the review process and finally 20 papers were able to make it for publication in GBR 2024. That leads to an acceptance rate of 10.2%.

Complying to the structural changes and difficulties faced by the authors in the restructuring process, I really take this opportunity to thank all the contributors and readers of GBR for making it an astounding success. As an editor, I also want to thank the university administration, authors, board of editorial advisors, board of editorial reviewers, my managing editor, associate managing editor, the faculty members, and the research scholars of FMS for their contribution that has really made the journey to complete uninterrupted Nineteenyears of its publication.

As now we are ready for the 21st issue of GBR-2025, we ring the bell of *call for papers-GBR 2025!*

Thank you for your time and consideration. Be our partner and make this journal a part of your life of ideas, thoughts and practice.

Happy Reading.

(Surekha Rana)

STATEMENT ABOUT OWNERSHIP AND OTHER PARTICULARS OF THE JOURNAL GURUKUL BUSINESS REVIEW (GBR)

FORM-5

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I, Dr. Sunil Kumar, hereby declare that particulars given above are true to the best of my knowledge and belief.

Dr. Sunil Kumar
Registrar
Gurukula Kangri
(Deemed to be University)
Haridwar.

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Would you take a moment to evaluate the papers/articles you have read in the 20th issue of the "Gurukul Business Review (GBR)" Your valuable comments will help shape future issues. Thank you!

		Highly Appreciable	Somewhat Appreciable	Not Appreciable
1.	A PERSPECTIVE OF MATERNITY AND PATERNITY LEAVE IN INDIA			
2.	NAVIGATING HIGHER EDUCATION CHOICES: THE IMPACT			
3.	UNLOCKING SUCCESS: THE RELATIONSHIP BETWEEN			
4.	AN EMPIRICAL STUDY ON THE EXPLORATION OF VOCATIONAL			
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6.	CONSUMER WILLINGNESS TO PAY HIGH PRICE FOR CONSUMPTION			
7.	A REVIEW ON IMPACT OF COVID-19 ON LABOR MIGRATION: ETHICAL			
8.	SOCIAL MEDIA ADDICTION: A RETROSPECTIVE EXAMINATION			
9.	SHECONOMICS IN ACTION: AN ANALYSIS OF INVESTMENT			
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11.	CHANDRAYAAN-3: A CASE STUDY IN INDIA'S TECHNOLOGICAL TRIUMPH			
12.	LINKING HR RESPONSIVENESS WITH TOURISM EMPLOYEE EXPERIENCES			
13.	DIGITAL ECONOMY AND FINTECH IN FACILITATING FINANCIAL INCLUSION			
14.	EMPLOYEE WELL-BEING AN OUTCOME OF WORKPLACE SPRITUALITY			
15.	RELATIONSHIP BETWEEN SELF-EFFICACY AND ENTREPRENEURIAL			
16.	EXPLORING LINGUISTIC HEDGES AND GENDER EQUITY IN ACADEMIC			
17.	INTEGRATING INDIAN KNOWLEDGE SYSTEMS WITH HOMESTAY TOURISM			
18.	PROBING THE IMPACT OF CORPORATE SOCIAL RESPONSIBILITY			
19.	MAPPING THE LANDSCAPE: A BIBLIOMETRIC ANALYSIS OF GREEN			
20.	AN EMPIRICAL EXAMINATION OF PROMOTING EMPLOYEES' GREEN			

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A perspective of Maternity and Paternity Leave in India

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Army Institute of Law, Mohali, Punjab

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Abstract

The article primarily pertains to Maternity and Paternity Leave in India that is currently being availed by the employees working in government organizations. Leaves that are granted during Maternity period are formally passed by Government of India through legislation. These are namely: Maternity Benefit Act,1961; Maternity Benefit Amendment Act, 2017; and other legislations in India pertaining to maternity benefits in one capacity or another. Article 42,43 of the Constitution; The Employees State Insurance Act,1948; The Factories Act,1948; The Contract Labour (Regulation and Abolition) Act, 1970; All India Services Rules (Leave) Rules, 1955; and Central Civil Services (Leave) Rules,1972 all cater to maternity benefits. Maternity benefit provisions have also been allowed and approved for adoptive and commissioning mothers. As observed in a notable judgement even the Supreme Court of India has levelled Leaves as Fundamental Rights afforded to female workers. The Government of India does not provide any Paternity Leaves to its male employees. All India Services Leave Rules, 1955, and Central Civil Services Leave Rules, 1972, Department of Personnel and Training, Government of India, are some of the relevant rules that provide Paternity leaves of maximum fifteen days to the male employees. Benefits of maternity leaves for women lead to social stability and economic growth.

Possible reforms with the increase in duration of the maternity and paid paternity leaves the government has to be mindful of inculcating shared parental responsibility amongst the employers and the society. On account of conscious of cultural shift in the workplaces willingness to grant paternity leave for private sector organizations is also suggested in the article. Benefits and possible reforms are suggested. Notable judgements in support of paid paternity leaves are mentioned.

Keywords: Maternity Leaves; Paternity Leaves; Shared Parental Leave; All India Services Leave Rules; Central Civil Services; Leave Rules; Periodic Labour Force Survey; Labour Force Participation Rate.

1. Introduction

The 21st Century has proven itself to be a period of immense and far-reaching social change. During these number of years, the Society, Government and Business organizations have seen concern for women's welfare; hence, even labour laws have taken these concerns in its enfolds. Work is no longer just a means of earning a living but a crucial, inalienable part of the human experience. In order to contribute to society, every able-bodied adult is expected to work irrespective of their race, sex, orientation, social status or gender expression. The right of a parent to be able to take care of their child unobstructed, the fundamental duty of the employer to provide means for the same and the right of a child to a proper upbringing are easy to overlook in the constant struggle to maximize workplace efficiency. The escalating production and salary cost is out rightly to be balanced with societal, economy and growth of a country.

According to Government of India, Ministry of Statistics & Programme Implementation, and their Periodic Labour Force Survey (PLFS) - Annual Report (July 2023-June 2024), India's Worker Population Ratio (WPR) for persons of age 15 years and above changed from 46.8% in 2017-2018 to 58.2% 2023-2024. The figures are well illustrated in Table 1. At around half of the country's total population, members of this demographic profile are also the most expected to have children, regardless of their gender. To deny them the proper opportunity to do so is to hamper the country's growth in the long run. The share of women in our work force is

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well illustrated by their presence observed in Worker population ratio. The Periodic Labour Force Survey (PLFS) Annual Report [July 2023-June 2024] released by the Government of India, Ministry of Statistics and Programme Implementation on 23rd September 2024 have also depicted that the Female Worker Population Ratio in India has improved by 22.0 per cent in 2018 to 40.3% in 2024. It is important to note that not all issues pertaining to one's work have received proper closure via appropriate legislation. Parental leaves in India still remain a hot topic of discussion. Studies carried out had revealed that Paid parental leaves benefits the employees, employers and society as it reduces employee turnover and better co-ordinates wage replacement benefits (Low and Sanchez-Marcos, 2015). De Souza et al. (2022) emphasized job protected paid leave for well-being of child and the society. Van et al. (2020), and Arneson (2021) stated that paid maternity leave is associated with beneficial effects.

Parenting leave refers to the leaves from work granted to parents in order to take care of their children, either newborn or adopted. These include maternity and paternity leaves. The Indian woman is expected to be the primary caregiver to her child, despite her marital, educational or occupational status. Around 47.6% of females aged 15 years and above in rural India are participating in labour force, contrary to their urban counterparts amounting to 28.0% of the workforce, a number expected to increase exponentially in the future. Therefore, it is only fair that women have their concerns properly addressed.

By improving their working capital and competitiveness (Deb and Baruah, 2022),

Table-1:
Labour Force Participation Rate (LFPR in per cent) and Worker Population Ratio in usual status for Persons of age 15 years and above

Survey Period	Male	Female	Person
2017-2018	75.8 (71.2)	23.3(22.0)	49.8 (46.8)
2018-2019	75.5(71.0)	24.5(23.3)	50.2 (47.3)
2019-2020	76.8(73.0)	30.0(28.7)	53.5 (50.9)
2020-2021	77.0(73.5)	32.5(31.4)	54.9 (52.6)
2021-2022	77.2(73.8)	32.8(31.7)	55.2 (52.9)
2022-2023	78.5(76.0)	37.0(35.9)	57.9 (56.0)
2023-2024	78.8(76.3) (R80.2/75.6U)	41.7(40.3) (R47.6/U28.0)	60.1 (58.2) (R76.6/U)

Note: (ps+ss) determined considering both principal activity status and economic activity status 2023-24 refers to period July 2023-June 2024 and likewise for 2022-2023, 2021-2022, 2020-2021, 2019-2020, 2018-2019, and 2017-2018. Worker Population Ratio depicted within brackets. U-Urban & R-Rural.

Maternal leaves or Maternity leaves refer to the period of time a woman can take off work before, after or during childbirth. The exact nature and duration of said leaves may vary across different countries, fields and company policies.

In India, there are several provisions and Acts guaranteeing maternal leaves for women, including Article 42, 43 of the Constitution and Maternity Benefit (Amendment) Act, 2017, which entitles women working in both public and private sectors to 26 weeks of maternity leave.

Paternal leave, while notably less deliberated upon by the public and legislators alike, should be equally as available to the Indian worker. The Labour Force Survey Report 2023-24 released by the Ministry of Statistics and Programme Implementation states that around

78.8% of men aged 15 and above are part of the labour force. In rural and urban areas, LFPR for male in India grew from 75.8 % in 2017-18 to 78.8% in 2023-24, for female it changed from 23.3% to 41.7% and corresponding increase for persons of age 15 years and above from 49.8% to 60.1%.

A paternal or paternity leave is the period of time a father is eligible to take off from work in order to care for their newborn or adopted child. There are currently no constitutional provisions to mandate paternity leaves in the private sector. Even though under All India Services (Leave) Rules, 1955 and Central Civil Service (Leave) Rules, 1972, male government servants are eligible to avail paternity leaves. It is generally much shorter compared to maternity leaves, amounting to about 15 days, either leading up to the birth of their child or any time during 6 months from the birth/adoption of one. Table 2, presents brief overview of Parental Leaves for Mothers and Fathers in some countries across the globe. As observed from table 2, paid Parental Leaves for Fathers is denied almost in all countries, in spite of the fact that they have to bear equal responsibility of bringing up the family with increasing urbanization. Parliament in Singapore passed a law on 13th November 2024, to increase the amount of shared parental leave and mandatory paternity leave. Parents whose children are born from April 1,2026, will be entitled to full 10 weeks of parental leave amounting to total 30 weeks of Government Paid Paternity Leave and Shared Parental Leave. The new shared parental leave will replace the current scheme, which will allow working mothers to share upto four weeks of their 16 weeks of Government Paid Parental Leave with their husbands.

Table 2. Paid Parental Leaves in Some Countries Across the Globe

Country	**Paid Leave for Mothers, wk**	**Paid Leave for Fathers, wk**
Angola	<14	<3
Canada	>/= 52	>/= 14
China	14-25.9	No paid leaves
India	26-51.9	No paid Leaves
Japan	>/=52	>/=14
Singapore (Shared Parental Leave April 26 onwards)	14-25.9 (4GPPL)	3-13 (10GPPL)
South Africa	14-25.9	<3
United Kingdom	26-51.9	>/=14
United States of America	No paid leaves	No paid leaves

Note: GPPL: Government Paid Paternity Leave; wk: week

The next few paragraphs primarily pertain to Maternity and Paternity Leaves in India. Maternity Leaves are granted formally through legislations like The Maternity Benefit Act,1961; Maternity Benefit Amendment Act,2017; and other legislations in India pertaining to maternity benefits in one capacity or another. The Employees State Insurance Act,1948; The Factories Act,1948; The Contract Labour (Regulation and Abolition) Act, 1970; All India Services Rules (Leave) Rules, 1955; and Central Civil Services (Leave) Rules,1972 all cater to maternity benefits. Maternity benefit provisions have also been added for adoptive and commissioning mothers. As observed in a notable judgement even the Supreme Court of India has levelled Leaves as Fundamental Rights afforded to female workers. The Government of India does not provide any Paternity Leaves to its male employees. All India Services Leave Rules, 1955 and Central Civil Services Leave Rules, 1972 are some of the relevant rules that provide Paternity leaves of maximum fifteen days to the male employees. Benefits of maternity leaves for women lead to social stability and economic growth. Possible reforms with increase in duration of the leaves and willingness to grant leave for private sector organizations is suggested.

I. Maternity Benefit Act, 1961

With the Maternity Benefit Act of 1961 and its subsequent amendments, the Indian government aims to provide female workers with several benefits pertaining to pregnancy and child care during the course of their employment. Some important aspects of the Act have been elucidated upon hence forth: -

1. Application of the Act in India

According to Section 2 of the Maternity Benefit Act, 1961 gives rights and privileges to women employed across various establishments.

i) The Act applies to Establishments that have been listed below:

- Establishments in the form of a factory, mine or plantation, also including ones owned by the government.
- Establishments where the employees are involved in display of equestrian, acrobatic or other performances.

ii) This Act applies to any shop or establishment defined by any existing state law regarding the same, where ten or more individuals are presently employed or were employed on any day in the preceding 12-month period.

2. Nature of work to be assigned to women during a certain period

Section 4 of the Act provides conditions for a pregnant woman to be employed either immediately before or after her date of delivery.

i) Employers are directly prohibited from employing a woman for a period of six weeks following a delivery, miscarriage or medical termination of pregnancy.

ii) The Act also prohibits pregnant women from performing work that could be considered potentially detrimental to the overall health of the pregnancy or cause a miscarriage during one month before the due date. This may include work consisting of long hours of uninterrupted standing.

3. Payment of Maternity benefit

Maternity benefit refers to the financial support provided to a woman during the course of her leave.

i) Right to payment of Maternity benefit (Section 5)

- The female employee seeking leave is entitled to receive the payment of maternity benefit which is at the rate of her average daily wage for 3 months immediately preceding her period of absence.
- The maternity benefits were initially stipulated to be provided for 6 weeks both before and after the expected delivery date, amounting to 12 weeks in total.
- This was later amended in 2017. The limit has now increased to a total of 26 weeks with 8 weeks pre-delivery and 18 weeks post-delivery.

ii) Claim and payment of Maternity benefit (Section 6)

- The Act stipulates that a female employee seeking maternity leave is to deliver a notice in writing to her employer, in which she is to specify the date from which she is to be absent and the date of her return to work.
- The maternity benefit is to be paid in advance by the employer for the period before the delivery date. The remaining amount is payable after delivery.

iii) Payment of benefit in case of death (Section 7)

- In case the woman entitled to receive the Maternity benefit under this Act were to perish before receiving the same, the entire amount is to be paid to her nominee or in case of absence of the same, to her legal representative.

II. Maternity Benefit (Amendment) Act, 2017

There were several new welcome changes to the Maternity Benefit Act, 1961 introduced in the Maternity Benefit (Amendment) Act, 2017. This was for workplaces to be more open and considerate of their female employees. Some amendments have been listed below:

1. Increased Leave Period
 • Originally, Section 5(3) of the Maternity Benefit Act of 1961 offered a total of 12 weeks of leave to female employees. Out of these 12 weeks the initial 6 were to precede the expected date of delivery of the child and the other half were to immediately follow the same.
 • The Maternity Benefit (Amendment) Act of 2017 later increased this period of paid maternity leave to 26 weeks in total. Out of these, 8 were to be taken before the delivery and the other 18 were to follow it.

2. Provisions for Adoptive and Commissioning mothers
 The Maternity Benefit (Amendment) Act of 2017 also added a previously absent provision for adoptive and commissioning mothers in Section 5(4) which reads as follows:
 "A woman who legally adopts a child below the age of three months or a commissioning mother shall be entitled to maternity benefit for a period of twelve weeks from the date the child is handed over to the adopting mother or the commissioning mother, as the case may be."

3. Work from Home opportunity for female employees
 • The newly added Section 5(5) of the Maternity Benefit (Amendment) Act of 2017 provides women with an option to work from home following the Maternity Leave period.
 • Given that the nature of work done allows it to be done remotely and on conditions mutually agreed upon by the employer and the female employee.

4. Availability of Crèche Facilities
 According to the Ministry for Women and Child Development, a crèche facility is a facility which enables parents to leave their children while they are at work and where children are provided stimulating environment for their holistic development.
 • Section 11 A(1) of the Maternity Benefit (Amendment) Act, 2017 provides that every establishment consisting of 50 or more employees must provide a crèche facility within a prescribed distance.
 • The employer is also bound to allow up to 4 visits a day by the female employee to the crèche, which also includes the interval for rest afforded to her.

5. Informing female employees at the time of appointment
 Section 11 A(2) of the new Act also makes it compulsory for the employer to intimate the female employee, either in writing or electronically, of the benefits provided under this act at the time of appointment.

III. Other Laws Pertaining to Maternity benefits for women in India

Other than the Maternity Benefit Act of 1961 as well as Maternity Benefit (Amendment) Act, 2017, there exist several other pieces of legislation in India pertaining to maternity benefits in one capacity or another. Some are touched upon as follows:

1. The Employees' State Insurance Act, 1948:
 • This Act provides maternity benefits to female employees, including medical benefits.
 • Women ensured under ESI get 26 weeks of maternity benefits up to 2 surviving children payable at the rate of their daily average wage as per latest updates by Employee's State Insurance Corporation.
 • Any employers found to have dismissed or deprived their female employees during this period are punishable under this act.
 • In case of pregnancy related issues or illness, an additional leave of 30 days along with monetary benefits can be provided.

2. The Factories Act, 1948:
   - Section 66(1)(b) of this act prohibits the employment of women between 7 p.m. and 6 a.m. This can be relaxed via government approval.
   - Section 48(1) mandates the setting up of creches in factories with more than 30 female employees for children less than 6 years of age.

3. All India Services (Leave) Rules, 1955:
   - According to Section 18, a female member of the Service with less than two surviving children is eligible for maternity leave.
   - Under this act, the leave can be taken for 180 days on full payment.
   - Maternity Leave under this act can be combined with any other type of leave up to a maximum of 2 years in continuation after the same.

4. Central Civil Service (Leave) Rules, 1972:
   Section 43(1) of this act reads as follows:
   "A female Government servant (including an apprentice) with less than two surviving children may be granted maternity leave by an authority competent to grant leave for a period of (180 days) from the date of its commencement."

IV. Notable Judgments

There are some landmark cases pertaining to maternity leaves for women in India, some of them have been listed below:

1. Neera Mathur vs. Life Insurance Corporation of India (1992)
   - This case shed light on the privacy of female employees in the workplace.
   - It was in this case that the Supreme Court of India ruled against asking women private questions concerning things like their menstrual cycles or pregnancies during time of hiring.
   - This decision promoted nondiscrimination against women in workplaces.

2. Municipal Corporation of Delhi vs. Female Workers (2000)
   - In this case, 11 female daily wage employees under the Municipal Corporation of Delhi were denied maternity leaves because they had been classified as temporary workers.
   - Here, the Supreme Court extended the benefits of the Maternity Benefit Act, 1961, to female daily wage workers and said that the application of the same should not depend on employment status of women.

3. Sushma Devi & Ors vs. State of Himachal Pradesh (2021)
   - Here, the issue before the court was whether a contractually employed female worker under the government could avail maternity leave in cases where the child in question is the result of a surrogacy arrangement.
   - It was held by the court that no discrimination can be made between women in the granting of maternity benefits on grounds of the baby being a surrogate.

V. Benefits of Maternity Leaves for Women and the Economy at large

As ruled by the Supreme Court of India, Maternity leaves are a fundamental right afforded to female workers in India. To be mindful of these rights is a duty of both the employer and the employee and following of the same is only beneficial for the economy in the long run. Some of the potential benefits have been discussed below:

1. Health of women
   - Maternity leaves allow women time to recover from any pregnancy related complications.
   - With pregnant women being temporarily emotionally vulnerable both before and after delivery, maternity leaves help in reducing stress causing factors and reduce the risk of postpartum depression and anxiety.

2. Child Development

- Longer periods of maternity leaves allow mothers to properly bond with their newborn children, fostering healthy development and relations in both the child and the mother.
- Longer maternity leaves allow mothers to breastfeed the child at home without worries, which is beneficial for the child's physical development.

3. Job Security
   - Maternity Leaves allow women to avail leaves to care for their newborn children without the fear of potentially losing their jobs, increasing job security.
   - This allows women to remain in the workforce at large.

4. Increased Productivity
   - Maternity leaves allow women to focus more on their health as well as that of their children.
   - Thus, their productivity increases when they rejoin work due to strong health and morale.

5. Worker Retention
   The turnover cost of recruiting and training newer employees for companies is greatly mitigated by maternity leaves as there is even less reason for older, more experienced and productive female staff to leave their jobs.

6. Economic Growth
   Worker retention and increased participation rates ensured by the granting of maternity leaves to female employees greatly contributes to economic development due to higher productivity.

7. Social Stability
   - Granting of maternity leaves ensures social stability.
   - The leave reduces stressors related to things like job loss during an otherwise critical time.

VI. Reasons why female employees do not avail maternity leaves

Still, there are several potential reasons that may dissuade a female employee from attempting to avail a maternity leave. Some of these reasons have been discussed below:

1. Social Stigma
   - Indian society at large is believed to be a conservative one which places high expectations on its members.
   - While thinking of availing the maternity leave, women may be put off by the thought of being perceived as less committed or devoted to their field of work than their male colleagues and as making up an excuse.
   - An atmosphere of negative feedbacks may make women feel that they should not avail such leaves in order to prove themselves willing and capable.

2. Gender Norms
   - In India it is normalized for the people to expect a mother to solely take care of her child along with taking care of her job, which in many circumstances, results in less-than-ideal outcomes in both fields.
   - The expectation to somehow "do it all" only works to further this belief, discouraging women from taking leaves.
   - Taking leaves, according to Indian society, would be tantamount to admitting defeat when faced with obstacles.

3. Impact on Career
   - Women taking maternity leaves may be seen as weak and unwilling to properly do their jobs by their superiors and peers.
   - There is a fear that availing maternity leave would negatively affect one's

performance evaluation.
- There is also a chance of potentially missing out on key projects or networking and career expanding opportunities at their workplace.

4. Pressure in the Workplace
- In a high-pressure work environment, there is a very real possibility of women being struck with the guilt of leaving their colleagues to cover up for them in their absence.
- According to them, their absence may even negatively impact their team projects.

5. Lack of Awareness
- Even though legally mandated, some establishments may fail or deliberately not inform their female workers of the availability of maternity leaves.
- This can go unnoticed in rural areas where women are generally expected to be less aware of their rights and where there is a lack of government oversight.

VII. Paternity Leave

Paternity leave refers to the period of time away from work afforded to a male employee during and after the birth or adoption of a child. This is done to give the employee ample time to bond with the child and to support both the wife and child in that impressionable period.

Paternity leaves are generally much shorter than maternity leaves and there is active discussion about the need to potentially increase the same to meet society's needs and demands.

While there are no laws mandating paternity leaves in the private sector, the government of India does provide paternity leaves to its male employees. The relevant laws have been discussed below:

1. All India Services (Leave) Rules, 1955

The All India Services (Leave) Rules, 1955 apply to members of the All India Services. This includes the Indian Administrative Service (IAS), Indian Police Service (IPS), and Indian Forest Service (IFS).

i) Paternity leave

Section 18(B) states the following:

"A male member of the Service (including a probationer) with less than two surviving children, may be granted paternity leave by an authority competent to grant leave for a period of 15 days, during the confinement of his wife for childbirth, i.e. up to 15 days before, or up to six months from the date of delivery of the child."
- During the leave of 15 days, the employee will be given the salary equal to his pay since before he went on leave.
- This leave may be combined with any other leave.

ii) Paternity Leave for Child Adoption
- According to Section 18(C), on the adoption of a child below 1 year of age by a male employee (or probationer) with less than two surviving children, the employee may be granted a paternity leave of 15 days.
- This leave can be availed within a period of six months from the said adoption.

2. Central Civil Service (Leave) Rules, 1972

The Central Civil Service (Leave) Rules from 1972 govern the leaves afforded to government servant to the central administration.

i) Paternity Leave
- According to Section 43 A, a male government servant (including an apprentice) with less than two surviving children may be granted 15 days of paternity leave.

- This leave can be taken up to 15 days before or up to six months after the childbirth of his wife.
- During this period, he will receive leave salary equal to his pay before the leave.
- Paternity leave can be combined with other types of leave.

ii) Paternity Leave for Child Adoption

- According to Section 43 AA, a male government servant (including an apprentice) with less than two surviving children may be granted 15 days of paternity leave within six months of accepting a child in pre-adoption foster care or valid adoption of a child below one year.
- If foster care does not lead to an adoption, the paternity leave taken will be deducted from other available leaves of the male employee.
- During this leave, the male employee will receive his regular pay.
- It can be combined with other types of leave.
- Paternity leave will lapse if not used within the specified period.

VIII. Notable Judgments

There are some landmark cases pertaining to paternity leaves for men in India, some of them have been listed below:

1. Chander Mohan Jain vs N.K. Bagrodia Public School & Ors. (2009)
   - In this case, the petitioner, a post graduate teacher, moved court when his appeal for paternity leave was denied by the respondent No.1-School as the school had not adopted any facility to paternity leave.
   - The petitioner was asked to take leave under the existing rules. This implied that no paternity benefits expected by the petitioner would be provided.
   - In view of the stand taken by the responding parties, the court dismissed the petition and paternity leave was granted.

2. B. Saravanan vs Deputy Inspector General of Police (2023)
   - In this case, a police inspector's paternity leave was revoked due to law-and-order concerns, leading to a desertion order when he couldn't report back.
   - The cancellation was challenged by him in court, arguing his wife's high-risk IVF pregnancy required his presence.
   - The court ruled denying paternity leave violated Article 21, quashed the desertion order, and directed his reinstatement.

IX. Possible Reforms in Indian Paternity leave Laws

As has already been discussed, paternity leaves in India are dramatically shorter than maternity leaves, if available at all. As time progresses, society has come to the realization that the role of a father is just as important as that of the mother in child rearing as well as supporting their family. Therefore, it is unfair for paternity leave provisions to be as lacking as they currently are in India. Some possible and welcome reforms to paternity leave policies have been discussed below:

1. Expanding its reach
   - The first and arguably the most important step would be to expand the reach of paternity leave provisions in India.
   - So far, only the Central Civil Services and All India Civil Services, both under the government, offer paternity leaves to their male employees.

- To expand the reach of paternity leave provisions would be to make it compulsory for private establishments across all sectors to provide paternity leaves to their male employees.
- So far, the onus of providing paternity leaves in the private sector lies solely on the willingness of respective private establishments.

2. Increased Leave Duration
   - Company of a father is just as important to the development of a child and the

stability of the family as the presence of a mother.

- To begin with, the paid leave duration for male employees should be increased to at least 1 month, both in the public and private sectors.
- This period of leave should be up for possible amendment and increase in the future.
- The period of leave for single fathers should be the similar to if not more compared to what is provided to mothers under the Maternity Benefit (Amendment) Act of 2017, i.e., 26 weeks.

3. Making Paternity Leave provisions more inclusive and accessible
   - While adoptive fathers are included in the present legal provisions for paternity leaves, there is still a need to expand the eligibility criteria for paternity leave to better reflect the ground reality in the present day.
   - The definition should be expanded to also include same-sex couples and out of marriage relations.

4. Acceptance in workplaces
   - There needs to be a culture of acceptance in the workplace.
   - Both in India and across the world, fathers are still not seen as being equally as responsible for taking care of the family as mothers, preventing them from possibly availing leaves for the same due to toxic workplace attitudes.
   - General awareness that caring for one's family is a natural instinct for any parent. It should be accepted, rather than looked down upon or even punished.

2. Conclusion

The topic of both maternity and paternity leaves is a widely debated one. As society progresses, it aims to reform itself into a more accommodating and welcoming one. Over time, the government of India has come forward with various laws and regulations pertaining to maternity and paternity leaves in a bid to make parenting healthier and easier for both the parents and their children.

With these laws, the government aims to make parenting simpler and not a burden in today's economy. With the cost of living rising and wages struggling to keep up across the world, child rearing has become harder, with birthrates crashing worldwide. By providing adequate maternity and paternity benefits, the government can not only ensure stable birthrates, but also increased and more productive participation in the workforce. While there is still room for improvement and inclusivity in the realms of gender equality and what the law defines as a "family" while providing leaves to mothers and fathers, it cannot be denied that there is a push for it nonetheless.

When new parents have the ability to properly nurture their children and experience familial bonds, only then can they prove themselves to be at their best in the workplace. When children allowed company of their caregivers during the initial developmental stages of their lives, only then can they grow up to become productive members of society.

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Navigating Higher Education Choices: The Impact of Parents' Guidance and Influence with Special Reference to Delhi University Students

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Abstract

The present study is based on the research gap that lies in the dearth of studies specifically investigating the impact of parent's guidance and influence on students' course selection in colleges at Under Graduation (UG), Delhi University. While prior research from various countries has explored common factors such as affordability, college reputation, and familial or peer influence, no study has focused exclusively on parental influence on the choice of course of Delhi University students. This gap is crucial as Delhi University reputation and environment is very different in many aspects, however, similar studies have been conducted in Malaysia. Delhi is capital of India or it can be said as "Heart of India", city of development, population size, and multiculture nature suggest that despite sharing common factors, the reasons and causes may differ. Therefore, this exploratory study aims to discern and analyze the unique factors affecting students' course choices in Delhi University students.

Key Words: Parental Involvement, Course Selection, Children's Education, Under Graduation (UG) and Delhi University

1. Introduction

Parent's role in child upbringing is very important, it cannot be ignored. Every parent wants to see their child to have good career and success in their life. Parent is considered as first teacher, counsellor and guide for their child. The contribution of parents in selecting future career for their child can vary widely depending on cultural, familial, and individual factors (Pablo- Lerchundi, 2015). While parents often play a significant role in guiding and supportive their children's career choices (Devika, 2019), it's important to maintain balance between providing guidance and letting the child to take their decisions own. Even child also looks forward for emotional support & encouragement for their career aspirations. As supportive environment can boost a child's confidence and motivation to pursue their chosen path.

Due to the advent of the internet and globalization, students have a wide array of educational courses which can help them to set up their career. In this complex landscape, parents often play a role in assisting their children by offering advice on the value of various fields and potential international opportunities. Parents can play an important role in providing information about different career options, educational courses and the job market. They can help their children in exploring different areas and understand the potential opportunities and challenges associated with them. Parents can encourage their children to explore and reflect on themselves by identifying their interests, strengths, values and long-term goals. This self- confidence is essential for making them informed about their course choice and career decisions. While making the children to take decision regarding course choice, parents should help them by setting realistic expectations through discussion of the level of commitment, choice of course to study to pursue their certain careers. Moreover, as education becomes increasingly specialized and costly, parents may take a more active role in decisions concerning the affordability and practicality of certain courses and institutions. They may also aid their children in making informed financial choices regarding student loans and scholarships.

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An Overview of Parental Influence

Throughout history, the influence of parents in shaping their children's educational and professional careers has undergone significant changes, varying across cultures and times. In traditional societies, parental involvement in choosing children's educational and career choices was predominant. Family traditions, caste systems and social expectations often determined one's professional career. Children were generally expected to follow in their parents' professional footsteps, whether that involved pursuing a family profession or any other profession. With the beginning of the industrial revolution and modernization there was a profound shift in society from agriculture. This led to greater occupational specialization and led parents to play vigorous role in shaping their children's education & prepare them for specific roles in emerging industrial and service sectors. The history of parents' involvement in their children's course selection reflects the development of social norms, economic structures and educational opportunities. But it's important for parents and students to maintain open and respectful communication throughout the decision-making process to ensure that the final choice is a well-informed and mutually agreed-upon decision. Parental involvement significantly influences career achievement & Regular attention and advice from parents facilitate achievement (Devika, 2019).

2. Review of Literature

Now a days choosing career has become a very difficult task due to this sometimes students are not able to express their choice in choosing career. The main reason behind this is that the information is available on internet in large number but students are not able to choose which would be suitable for them (Najmuddin, 2006). Students' choice of courses and university selection is influenced by various factors. These factors include future career prospects, passion for a particular field, parental influence, peer influence (Liu, et al., 2015), opportunity, personality, and the quality and cost of education (Palmer, 2011; Hussin, 2019; Gwelo, 2019). Academic achievement, assessments of talent and preparation, as well as wide criteria, are also considered in university selection (Mustafa, 2018). Demographic characteristics such as gender, nationality, parental education (Onkar, 2018; Lampard, 2007), and parental occupation can also play a role in students' choice of higher educational institutions (Delavande, 2019).

Parents play an important role in the selection of courses for their children in higher studies (Rini, 2014; Dalimunthe, 2014). They have the ability to influence their children's career choices based on their own age, education level (Onkar, 2018), and intentions (King, 2006). Effective communication between parents and children is decisive in the decision-making process, as it allows for a better understanding of each other's desires and expectations (Hussin, 2019). Parents provide guidance, considerations, and advice to their children, while friends and peers also play a role in sharing alternative choices (Cooper, 1991). Factors such as future career prospects, passion, parental influence, and peer influence (Liu, et al., 2015)all contribute to the decision-making process. By understanding these determinants, higher educational institutions can develop strategies to increase student admissions and improve academic quality and governance. The parent's perspective and engrossment in the special education process is crucial for supporting their children with special needs (Sistek-Chandler, 2017). Parents play a crucial role (Liu, et al., 2015) in the selection of courses for their child's higher studies (Mesiridze, 2009). Parental influence has been found to have a positive impact on students' choice of university course and regular support from parents (Yean, 2019) have proved a long- lasting effect on student's interest in careers (Gao, 2023; Liu, et al., 2015; Malik, 2016; Gao, 2017). Parental involvement, specifically social capital, can moderate the effects of cultural and economic capital on university access and choice (Yean, 2019). Male student's parents have a high school education (Cheng, 2019) or lower are more likely to choose a major in mathematics or science compared to male students whose parents have some college education or higher (Smoke, 2013; Kline & Juvonen, 2023). Students whose parents have some college education or higher are more likely to continue their education whose parents have a high school education or lower (Kaur, 2014). Parents from disadvantaged communities value education as a means of securing a good job for their children and want them to progress further in the educational system (Scanlon, 2019). The overall effect of parent's employment sector on children's educational attainment is not obvious, as it can both benefit from higher levels of family income and be negatively impacted by reduced parental time spent with them (ScHildberg-HöriScH, 2016; Liu, et al., 2015).

The income of parents plays very important role in selection of courses chosen by their income of parents has a significant impact on the selection of courses chosen by their children at the higher education level (Onkar, 2018). If parents having higher income is related with a higher likelihood of attending more selective institutions (Alexandersen, 2021) and predicts child attendance at Early Childhood Education and Care (ECEC; Dur, 2004) with higher structural quality (Zarifa, 2012). Furthermore, parental actions and educational encouragement can influence a child's learning habits and academic performance (Hill, 2016). These findings highlight the influence of parental income on educational opportunities and outcomes for children, emphasizing the need for efforts to ensure equal access to high-quality education for all students, regardless of socioeconomic background.

3. Materials and Methods

3.1 Data Collection:

The sample of this research comprised of undergraduate students who are currently pursuing in academic year 2023, summer semester, i.e., from July to December within Delhi University Colleges. The University of Delhi (DU) has 71,000 undergraduate (UG) seats across its 68 affiliated colleges. As per reports, on average basis every year 93% seats are filled up. Undergraduate students studying during the academic period July to December, 2023, in various colleges of Delhi University were considered as the population for the present study. Purposive sampling was used as a technique of sampling.

3.2 Research Design

A Structured questionnaire was designed and administered to undergraduate students of different Delhi University colleges for the collection of Primary data. The questionnaire was designed to seek the data on the parental influence over students on the choice of the course at higher education level. A pilot study was conducted before administering the questionnaire to 20 randomly selected students. The pilot test led to the simplification of some questionnaire phrases and the further clarification of some questionnaire items. Respondents provided their opinion regarding Parental Involvement (PI) and Course factors (CF) on a 5-point Likert scale. Respondents also indicated whether their parents are working or non-working. Responses to this variable yielded the independent variable. The Questionnaire was administered to around 3000 students out of which only 548 students responded to the questionnaire sent through mails as well as WhatsApp group, out of 548 responses only 532 were found complete and valid.

3.3 Data Analysis

Analysis of the data collected was interpreted by applying statistical software SPSS version 21. The questionnaire was assessed for its reliability using Cronbach's Alpha and normality using Kolmogorov Smirnoff test. The Cronbach Alpha's result as shown by table 3.1 that all constructs have Alpha values more than 0.60 which is considered good in social science researches and indicates that the construct are highly reliable.

Constructs	No. of Items in Constructs	Cronbach's Alpha value
Course Factor	11	0.933
Parental Involvement	9	0.818

Table 1.
Reliability Factor

Table 2.
Descriptive Statistics of Statements

Labels	Statements	N	Mean	Std. Deviation	Description
PI1	parent's encouragement attitude	532	3.89	1.107	Slightly high
PI2	parents let me choose a carrier myself	532	3.96	1.084	Slightly high
PI3	parents encouraged me to do a job as per best of my abilities	532	4	1.038	Slightly high
PI4	choosing institution as per location that causes my parents to worry about me.	532	2.77	1.217	Moderate
PI5	consider the course in Institution as per location because my parents don't want me to stay far away from them.	532	2.66	1.195	Moderate
PI6	consider the course in Institution location when selecting a course because my parents don't want me to stay far away from them.	532	3.26	1.269	Moderate
PI7	parents encouraged me to pursue a stable carrier	532	3.85	1.041	Slightly high
PI8	parents encouraged me to pursue a stable carrier	532	3.71	1.065	Slightly high
PI9	think my parents' educational qualifications will influence mine	532	2.96	1.253	Moderate
CF1	I prefer a course that can show my spatial talent.	532	3.71	1.001	Slightly high
CF2	I prefer a course that relate to creative work	532	3.7	0.995	Slightly high
CF3	I like to choose a course that needs less supervision from others	532	3.18	0.992	Moderate
CF4	I choose a course that has opportunity to further study	532	3.86	1.035	Slightly high
CF5	I prefer goals that can improve my competence	532	3.99	1.007	Slightly high
CF6	I will choose course that can help in earning good income	532	4.08	1.101	Slightly high
CF7	I choose a course that has good prospects for advancement.	532	3.99	1.03	Slightly high
CF8	I will choose a course that can secure my future	532	4.1	1.091	Slightly high
CF9	I prefer a course that can satisfy myself.	532	4.07	1.049	Slightly high
CF10	I choose a course because of some really positive advice.	532	3.48	1.053	Slightly high
CF11	I choose course, because of influence from my ideal	532	3.18	1.137	Moderate
	Valid N (listwise)	532			

The analysis of the data has been done according to the objective of the study based on research problem and their stated hypothesis. The interpretations and conclusions were derived based on the results of the statistical tests. Researcher made use of statistical tools such as Descriptive analysis, correlation, regression and chi-square test as per hypotheses have been framed.

4. Findings of the Study

4.1 Demographic Profile

Table 4.1shows the distribution of sample for the study. It can be seen clearly that number of female students are more than male students and most of the students falls in the age group of 19-20-year-old group trailed by 18-19- and 20-21-year-old group.

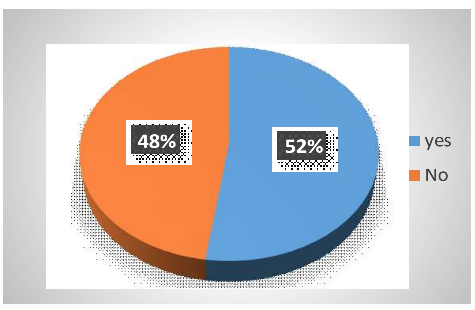
Table 3.
Age & Gender Distribution of Sample

Age Group	Frequency	%	Gender	Frequency	%
17-18	74	13.9%			
18-19	138	25.9%	Male	157	29.5%
19-20	191	35.9%			
20-21	129	24.2%	Female	375	70.5%
Total	532	100%			

Source: Primary Data

As can be seen from the figure 4.1, the percentage that students decided to take admission on their parents' suggestions at Under Graduation (UG) level is almost same as decision taken by them independently. However, for career decision making, parental involvement is very much on higher side i.e., 84%.

a. Parental Involvement/Suggestion for taking admission in a course



b. Parental support for Career Decision Making

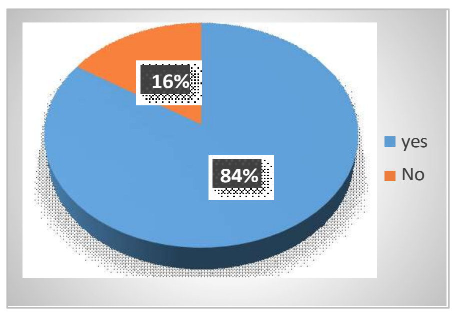


Figure 1.
Parental Involvement in Student's Decision Making

4.2 Hypotheses testing

H01: There is no significant impact of parental involvement and the choice of course chosen by their child at UG level

In order to test the significant impact of parental involvement on choice of course chosen by their child at UG level, the correlation and Regression analysis was conducted. The results reported that there is high correlation between the parental involvement and choice of course is 0.713. The results are further supported by the multiple regression analysis. The result of the regression as shown in table 5.2 shows that 50.8% ($r2 = 0.508$, $F = 546.726$, $p \leq 0.05$) of the variance of career choice. This means that parental involvement has significant influence on career choice ($\beta = .713$, $p < 0.05$).

Table 3.
Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Chan
1	.713[a]	.508	.507	.56838	.508	546.726	1	530	

a. Predictors: (Constant), mean_PI

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	176.621	1	176.621	546.726	.000[b]
	Residual	171.217	530	.323		
	Total	347.838	531			

a. Dependent Variable: mean_CF
b. Predictors: (Constant), mean_PI
Source: SPSS 26 version Output, Primary Data

H02: Parent's education and the choice of course chose by their child at UG level are independent of each other.
In order to examine the relationship between parents' education and choice of course by their child at UG level, the Correlation and Chi-Square test was performed. The results reported the Correlation value is 0.030, which shows positive correlation but very low. The Chi-square value, p-value is 0.978, which means we accept the null hypothesis.

H03: There is no significant relationship between parent's occupation sector and the choice of course chose by their child at UG level.
In order to examine the relationship between parents' occupation and choice of course by their child at UG level, the Correlation test was performed. The data analysis reported that there is high correlation between parents' occupation sector and choice of course. This leads to rejection of null hypothesis.

H04: There is no significant impact of parent's income on the selection of course to be chosen by their child at UG level.
In order to examine the relationship between parents' income and choice of course by their child at UG level, the Correlation test and Chi-Square test was performed. The data analysis reported that there is high and positive correlation between parents' income and choice of course (Pearson Correlation value 0.693) and Chi-Square p-value 0.301>0.05. This leads to rejection of null hypothesis.

5. Conclusions

The aim of the study was to explore the role of parents in choice of course of selection by their child. As parents have a vital role in their child's career development by respecting individuality, discussing finances, using networks, fostering open communication, aiding educational decisions, and adapting to changing circumstances. Balancing guidance and autonomy are crucial for successful career choices. The data analysis concluded that still parents are involved into their child's course of study at UG level to a great extent, Delhi University.
The study is limited to only UG students belongs to Delhi University and data was collected only from those students who were doing graduation during academic period 2023 mid-summer semester. In this way, the results of the present study cannot be generalized on all students as in private university students might produce different results.

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Unlocking Success: The Relationship between Learning Outcomes and Employability.

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Abstract
This paper delves into the crucial connection between learning outcomes and employability, a focal point in educational research and policy. It seeks to unravel this link by delving into different theoretical viewpoints, empirical findings, and practical implications. Through an exploration of the elements impacting the smooth transition from education to employment, it proposes strategies to bolster both learning outcomes and employability. By amalgamating existing studies and suggesting future research directions, this paper enriches our comprehension of how education can more effectively equip individuals for the job market and nurture their professional advancement.
Keywords: Learning Outcomes, Employability, Outcome-Based Education, Workforce Readiness, Skill Development, Higher Education, Career Competencies

1. Introduction

The intersection of learning outcomes and employability has become increasingly pertinent in contemporary educational discourse, as societies worldwide grapple with the challenges of preparing individuals for an ever-evolving workforce. With the rapid pace of technological advancements and shifts in global labor markets, the traditional linkages between education and employment are being redefined. Educational institutions are increasingly adopting Outcome-Based Education (OBE) as a pedagogical approach to ensure that graduates possess the knowledge, skills, and competencies necessary for success in their careers. OBE focuses on defining specific learning outcomes and aligning educational activities to achieve these outcomes effectively. This paper seeks to explore the relationship between learning outcomes attained through OBE and graduates' employability, shedding light on the mechanisms through which educational experiences influence career trajectories. Against this backdrop, understanding the dynamics of how learning outcomes translate into tangible skills and competencies relevant to employers has emerged as a crucial area of inquiry. This topic holds profound significance not only for educators seeking to enhance the quality of education but also for policymakers aiming to foster economic growth and social mobility. Moreover, as individuals navigate increasingly complex career pathways, the ability of education to equip them with the requisite knowledge, skills, and attitudes for lifelong success becomes paramount. Thus, delving into the relationship between learning outcomes and employability not only sheds light on the efficacy of educational systems but also has broader implications for individual well-being and societal progress. Understanding the key competencies that influence employability can help institutions and policymakers design better educational frameworks. To investigate these aspects, this study addresses the following research questions:

1. In what ways do learning outcomes contribute to graduates' employability in the modern workforce?
2. What core competencies do employers prioritize when assessing university graduates?
3. How do existing employability models incorporate learning outcomes to enhance career readiness?
4. How do university reputation and labor market dynamics influence the relationship between learning outcomes and employability?

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1. 1The Association between learning outcomes and the Employability of graduates

1.1.1 Learning Outcomes: Cedefop's definition of learning outcomes, established in 2009, delineates statements detailing the knowledge, comprehension, and skills that a learner acquires upon completing a learning experience. Similarly, Adam's definition characterizes learning outcomes as depictions of what a learner ought to understand, grasp, or demonstrate by the culmination of a learning period. Learning outcomes can be categorized into several types, each serving distinct purposes in educational assessment and curriculum design. Firstly, cognitive learning outcomes pertain to the acquisition of knowledge and intellectual abilities, encompassing areas such as understanding concepts, solving problems, and critical thinking. Secondly, affective learning outcomes focus on learners' attitudes, values, and emotional responses, aiming to cultivate qualities like empathy, tolerance, and ethical reasoning. Thirdly, psychomotor learning outcomes involve the development of physical skills and dexterity, including activities such as performing tasks, manipulating objects, and executing procedures. Additionally, interdisciplinary learning outcomes integrate knowledge and skills across multiple domains, fostering holistic understanding and application. These various types of learning outcomes collectively contribute to comprehensive educational experiences that prepare learners for diverse challenges and opportunities in their personal and professional lives.

1.1.2 Employability: Employability extends beyond mere job acquisition or possessing academic credentials, encompassing a range of factors determining an individual's preparedness for employment and success in the workforce. Within higher education, there's a growing emphasis on integrating employability expectations into student learning outcomes, particularly at the undergraduate level (Mawson and Haworth, 2018; Oliver, 2015; Wilks et al., 2017). While scholarly literature acknowledges the centrality of employability in higher education, there exists variability in defining and measuring it. Existing definitions generally fall into two categories: one focusing on inherent personal qualities contributing to employability (De Vos et al., 2011; Hillage and Pollard, 1998; Hogan et al., 2013; Sanders and Grip, 2004; Yorke, 2006)., and the other emphasizing the ability to navigate the job market independently, leveraging skills and adapting to varying employment contexts (Smith, Ferns, & Russell, 2014). Both definitions underscore the importance of skill development within a social context, recognizing the significance of competencies and their cultivation.

1.1.3 Learning and employability: Research conducted by Finch et al. (2013) underscores the clear connection between employability and the learning outcomes attained through university degree programs. Numerous studies further emphasize this correlation, with Knight and Yorke (2004) noting that quality learning experiences in universities significantly contribute to graduates' successful employability. Essentially, employability is widely regarded as a key outcome of university degree programs, with the skills and knowledge acquired during these programs directly shaping graduates' readiness for the workforce. A multitude of conceptual frameworks have been developed to explore the correlation between learning and employability. Among the most notable are the USEM (University Skills Employability Model), Career EDGE Model, and LEPO (Learning, Employability, and Progression Outcomes) model.

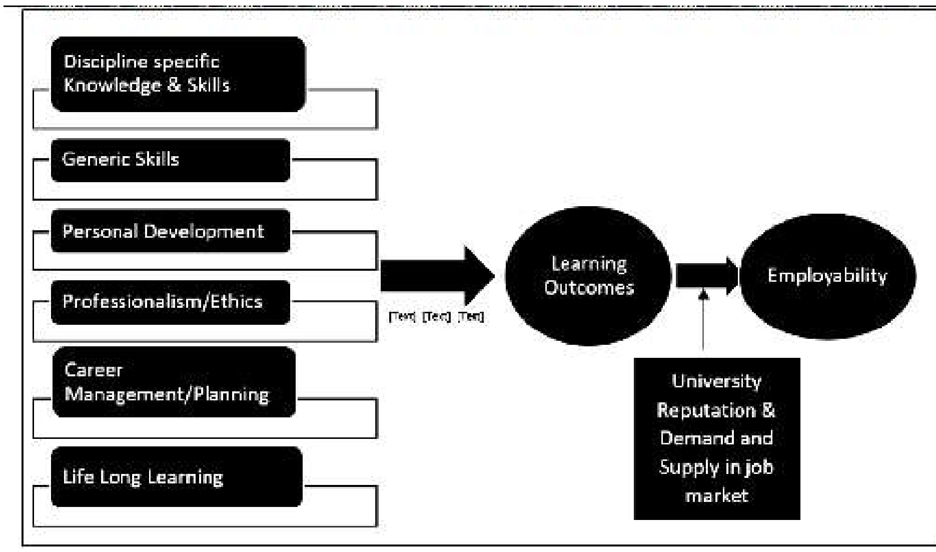
- USEM Model: This model (Knight and Yorke 2002) focuses on fostering particular skills and attributes throughout university education to improve employability. Its elements consist of academic abilities, which entail subject-specific knowledge acquired through academic courses and research, transferable skills like communication and problem-solving, and individual qualities such as resilience and emotional intelligence. While the University Skills Employability Model (USEM) offers valuable insights into the factors influencing employability within higher education, it also has several limitations. USEM primarily concentrates on the role of university education in enhancing employability. It may not fully account for the contributions of other forms of learning and skill development, such as vocational training, internships, or extracurricular activities, which are also significant in shaping graduates' employability. This model also overlooks contextual factors such as economic conditions, industry trends, and regional differences in labor markets. These external factors can profoundly influence graduates' employability but are not explicitly addressed within USEM. Moreover, USEM categorizes employability factors into academic skills, generic skills, and personal attributes. However, this classification may oversimplify the complexity of skills and qualities valued by employers. Employability is multifaceted, and other dimensions such as technical expertise, cultural competence, and creativity might not be fully accounted for within the framework.

- Career EDGE Model: This model (Pool and Sewell (2007) underscores five pivotal elements shaping employability, comprising Experience, Degree, Graduate Attributes, Employability Skills, and Emotional Intelligence. Experience encompasses practical exposure acquired through internships, co-op programs, and industry projects, while Degree denotes academic qualifications obtained from university education. Graduate Attributes represent personal qualities and professional competencies developed throughout the academic journey. Employability Skills encompass critical competencies highly prized by employers, including communication, problem-solving, and digital literacy. Additionally, Emotional Intelligence, which refers to the capability to comprehend and regulate emotions efficiently, is acknowledged as vital for attaining success in professional environments. Comparable employability competencies were identified by Smith et al. (2014) and Finch et al. (2013) in their respective research endeavors on the subject. Despite its popularity and simplicity in elucidating the fundamental aspects of employability, this model also possesses several limitations. This model also fails to consider contextual factors which can significantly impact graduates' employability. While emotional intelligence is recognized as an essential element of employability, its inclusion as a separate component in the Career EDGE Model may overlook its interconnectedness with other employability skills and attributes. Emotional intelligence is often intertwined with communication, teamwork, and problem-solving skills, and its isolated consideration may not fully capture its impact on employability outcomes.
- LEPO Model: This model proposed by Phillips et al. (2010) underscores the interrelation among learning, employability, and career progression outcomes. Its components comprise Learning Outcomes, which encompass the specific knowledge, skills, and competencies acquired through educational experiences. Employability denotes the extent to which individuals possess the necessary skills and qualities to obtain and excel in employment prospects. Progression Outcomes denote career advancement and development attained through ongoing learning and professional growth. Together, these elements highlight the dynamic and interconnected nature of individuals' educational experiences, employability, and career trajectories. Though LEPO model provides valuable insights into the interconnectedness of learning, employability, and career outcomes, it is important to recognize its limitations. The model primarily focuses on learning outcomes derived from formal educational experiences. It may not adequately account for informal learning, experiential learning, and non-traditional educational pathways, which also contribute to individuals' employability and career progression. This model also does not sufficiently consider the contextual factors that shape individuals' employability and career progression.

Indeed, the connection between employability and learning outcomes has been well-established in various academic studies and models. Storen & Aamodt (2010) and Finch et al. (2013) have contributed significantly to our understanding of this relationship. The studies underscore the significance of aligning university education and degree programs with the skills and competencies essential for achieving success in the labor market.

In essence, these studies emphasize the importance of aligning learning outcomes with the requirements of the job market to improve the employability prospects of graduates. By integrating insights from the above mentioned three research models into the proposed Integrated Model of Learning Outcomes and Employability (IMLOE), universities can better prepare students for successful transitions from education to employment.

2. Integrated Model of Learning Outcomes and Employability (IMLOE)
Integrating the USEM (University Skills Employability Model), Career EDGE Model, and LEPO (Learning, Employability, and Progression Outcomes) into a unified framework can offer a holistic approach to comprehend the connection between learning outcomes and employability. The proposed integrated model is outlined as under:



In this representation, skills form the foundation leading to learning outcomes, which subsequently contribute to employability. The moderating factors of university reputation and supply and demand dynamics impact the association between learning outcomes and employability. The common skills identified by all three models (USEM, Career EDGE Model, and LEPO) are represented in the framework. By combining these models, a broader range of skills and competencies are covered, providing a more comprehensive understanding of the factors influencing employability. These skills are consistently recognized as essential for both academic success and employability across various frameworks and models. This model visualizes how these skills and competencies intersect and complement each other, creating a comprehensive framework for both learning and employability. Each element contributes to the overall development of individuals, equipping them with the necessary tools to succeed academically and in the professional world.

2.1 Significance to the field
This paper is particularly relevant in light of the ongoing shifts in global labor markets, the rise of automation, and evolving employer expectations. The study introduces a novel Integrated Model of Learning Outcomes and Employability (IMLOE), synthesizing key existing frameworks to offer a comprehensive understanding of employability determinants. By incorporating recent findings and realigning traditional models with contemporary workforce demands, this research provides fresh insights into how education can better equip graduates for career success. The Integrated Model of Learning Outcomes and Employability (IMLOE) holds potential as a valuable instrument for curriculum design, pedagogical improvements, and bridging skill disparities between industry needs and university provisions. The subsequent section provides an in-depth analysis of the ten constructs within the integrated framework

2.2 Skills and Competencies
In our proposed model as well, discipline specific knowledge is regarded as the central

concept, aligning with the emphasis placed on these aspects in the Career EDGE model. Discipline-specific knowledge and skills play a crucial role in shaping learning outcomes by providing students with a deep understanding of their chosen field, facilitating the application of concepts in practical contexts, fostering critical thinking and analysis and preparing students for future careers or further study (Copps & Plimmer, 2013). In the proposed framework Discipline-specific knowledge encompasses a wide range of components fundamental to a particular field of study. This includes understanding foundational principles, theories, and concepts that underpin the discipline, alongside specialized terminology and vocabulary unique to its context. Furthermore, a comprehensive grasp of the historical context, including key developments and influential figures, is crucial. Theoretical frameworks provide analytical tools for interpreting phenomena within the discipline, supported by familiarity with research methodologies, experimental techniques, and analytical methods. Awareness of current trends, ethical considerations, and practical skills for application in real-world settings are also essential. Moreover, recognizing interdisciplinary connections and integrating diverse perspectives enriches one's understanding and contributes to a holistic mastery of the discipline.

Generic skills, also referred to as transferable skills or employability skills, are essential proficiencies that hold value across different industries and positions. These competencies are not limited to any particular job or area of study but can be utilized in various settings (Pool & Sewell, 2007). In our proposed model, we utilize the following elements to implement and assess generic skills.

1. Communication Skills:
   - Proficiency in conveying messages effectively through spoken and written means.
   - Engaged listening abilities.
   - Competence in delivering presentations.
   - Digital literacy (proficiency in using digital tools for communication).
2. Problem-Solving and Critical Thinking:
   - Analytical skills.
   - Generating innovative solutions.
   - Decision-making skills.
3. Teamwork and Collaboration:
   - Working effectively in diverse teams.
   - Valuing diverse perspectives.
   - Leadership skills (influencing, motivating, managing conflicts).
   - Lifelong learning orientation.
4. Enterprise and Entrepreneurship (Innovation):
   - Creativity.
   - Innovation.
   - Risk-taking.
   - Identifying and exploiting opportunities.

Good communication skills correlate with improved learning outcomes. This connection stems from the ability to effectively convey and understand information, ultimately enhancing learning achievements. Moreover, communication fosters student motivation, facilitating goal attainment. Collaboration relies heavily on communication; effective teamwork necessitates clear communication channels (H. Z. Matin and A. Hamidizadeh, 2010). During collaboration, communication clarifies implicit thoughts, aiding group cohesion (N. M. Webb, 2009).

Personal development skills encompass a variety of skills and qualities that may add to an individual's growth, self-improvement, and overall well-being. These skills are essential for personal and professional success. Personal development skills, as conceptualized in this study, encompass the following components:

1. Self-awareness and Self-management
2. Self-confidence
3. Emotional intelligence
4. Goal setting

5. Resilience
6. Time management
7. Stress management
8. Adaptability

Professionalism and ethics are also prominent factors which may enhance employability (Gowsalya & Kumar, 2017, p.16). Ethics is taken as a separate factor in this study because in the context of India's expanding global economy, it's crucial to anticipate the condition of its workforce regarding practical, cultural, and moral obstacles in both local and international settings. We advocate for an education system that aims to cultivate cosmopolitan values, honesty, and integrity in students.

Career management is deemed essential for university graduates as they aim for successful and fulfilling careers (Pool & Sewell, 2007). Dawson and Howitt (2019) emphasized in their study that unless university students can identify and effectively market their newly acquired employability skills to suitable job markets, their value remains restricted.

Research on career development education has recognized a range of elements, such as decision-making capabilities, awareness of opportunities, readiness for transitions, skills in self-presentation, and self-awareness (Diamante, 2014; Watts, 2006; Hillage & Pollard, 1998). Career Management/Planning construct in this study involves such as self-assessment, goal setting, skill development, job search strategies, networking, and decision-making related to career choices and advancement.

Lifelong learning entails the ongoing process of acquiring knowledge, skills, and competencies throughout one's life, extending beyond formal education. It encompasses both formal and informal learning experiences and can take place in diverse environments such as schools, workplaces, communities, and personal settings (Copps & Plimmer, 2013). Based on the finding that lifelong learning involves continuous acquisition of knowledge, skills, and competencies across various settings, we can operationalize the construct into three factors:

- Recognition and appreciation of the learning opportunities inherent in work experiences.
- Cultivation and expansion of professional and personal networks.
- Community Involvement

2.3 Operationalization of the learning outcome

Operationalization of the learning outcome construct involves specifying observable and measurable indicators or behaviors that demonstrate the attainment of the intended learning outcomes. The subsequent six statements are utilized to translate learning outcomes into measurable terms in this investigation:

1. Students effectively communicated ideas through verbal and written means, demonstrating active listening and proficiency in digital communication tools.
2. Students applied critical thinking and problem-solving skills to identify, analyze, and resolve complex challenges in diverse contexts.
3. Students collaborated effectively in teams, valued diverse perspectives, and demonstrated leadership in motivating and managing conflicts.
4. Students exhibited creativity and innovation in generating new ideas, taking calculated risks, and identifying opportunities for growth.
5. Students developed self-awareness, confidence, and emotional intelligence to navigate personal and professional challenges with integrity and resilience.
6. Students in career management and planning, set realistic goals, developed relevant skills, and made informed decisions to pursue successful and fulfilling careers.

2.4 University Reputation and Demand & Supply

The reputation of a university can significantly impact the employability of its graduates (Chevalier & Conlon, 2003, Finch et al. 2013). The reputation of a university can influence the correlation between learning outcomes and employability by enhancing perceived value, providing access to opportunities, and offering a competitive advantage in the job market. Reputable institutions may validate competencies, leverage networks, and prioritize candidates from renowned universities. To operationalize university reputation in this study, we have considered the following 3 factors:

- Academic Excellence: This factor encompasses indicators such as research output, faculty expertise, program accreditation, and academic rankings.
- Graduate Outcomes: This factor focuses on the success of graduates in securing employment or pursuing further education.
- Perception and Prestige: This factor considers the perception of the university among stakeholders, including employers, students, alumni, and the general public. Indicators may include surveys or assessments of reputation.

Research also shows that fluctuations in labor market demand for specific skills or qualifications affect graduates' employment prospects, while the supply of graduates in certain fields also plays a role. Labor market dynamics impact graduates' opportunities and the alignment between education and industry needs.

2.5 Operationalization of Employability

In the realm of defining employability, three prominent authors frequently referenced are Hillage and Pollard (1998), Harvey (2001), and Yorke (2006). They all converge on the notion that employability essentially pertains to an individual's perceived capability, encompassing skills, comprehension, and personal traits, to secure and sustain employment over the course of their career. Given the established competence-based perspective on employability, we have chosen to employ a similar approach to operationalize this concept in our research.

3. Utilizing the Integrated Model of Learning Outcomes and Employability (IMLOE) for Enhanced Workforce Readiness

The proposed Integrated Model of Learning Outcomes and Employability (IMLOE) offers a comprehensive framework to bridge the gap between education and workforce readiness. By amalgamating insights from established models like the University Skills Employability Model (USEM), Career EDGE Model, and Learning, Employability, and Progression Outcomes (LEPO) model, IMLOE provides a holistic approach to understanding the relationship between learning outcomes and employability. This integrated model acknowledges the multifaceted nature of skills and competencies essential for career success, encompassing discipline-specific knowledge, generic skills, personal development attributes, professionalism, career management, and lifelong learning orientation. Furthermore, IMLOE recognizes the moderating influence of university reputation on the translation of learning outcomes into employability. By operationalizing this model, educational institutions can tailor their curriculum design, pedagogical strategies, and career guidance initiatives to align with industry demands and enhance graduates' employability prospects. IMLOE serves as a valuable tool for stakeholders in academia, industry, and policymaking, facilitating informed decision-making and fostering a symbiotic relationship between education and employment.

4. Prospects for Advancements in the Study

Future developments of the above study could encompass several avenues aimed at further refining and extending the Integrated Model of Learning Outcomes and Employability (IMLOE) framework. Empirical studies can be conducted to validate the IMLOE framework across diverse educational contexts and industries. It is also suggested to Investigate the intersectionality of factors such as gender, ethnicity, socioeconomic status, and disability status in shaping individuals' access to education and employability outcomes. This could involve examining how the IMLOE framework can be tailored to address the unique needs and challenges faced by marginalized or underrepresented student populations.

5. Conclusion

This study has extensively examined the intricate relationship between learning outcomes and employability, shedding light on the mechanisms through which educational experiences influence graduates' readiness for the workforce. By exploring various theoretical perspectives and empirical evidence, the research underscores the significance of aligning curriculum design and pedagogical strategies with evolving industry needs. The proposed Integrated Model of Learning Outcomes and Employability (IMLOE) offers a comprehensive framework for understanding and enhancing graduates' employability prospects. IMLOE synthesizes insights from existing research models such as USEM, Career EDGE, and LEPO, providing a holistic approach to addressing the skill gaps between educational offerings and industry demands. Moreover, the operationalization of key constructs within the IMLOE framework offers practical guidelines for curriculum development, pedagogical enhancements, and addressing the evolving needs of the job market.

Importantly, the study highlights the moderating roles of both university reputation and demand-supply dynamics in shaping the relationship between learning outcomes and employability. University reputation significantly impacts graduates' perceived value in the job market, providing access to opportunities and offering a competitive advantage. Additionally, demand-supply dynamics influence the availability of job opportunities, affecting graduates' employability prospects in specific industries or regions.

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An Empirical Study on the Exploration of Vocational Education within the Framework of National Education Policy 2020 for Holistic Learning

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Abstract

This research investigates the integration and impact of vocational education within the National Education Policy 2020 (NEP 2020), with a focus on its influence on holistic learning. Utilizing a mixed-methods approach, the study combines quantitative survey analysis and qualitative insights from open-ended questions. Quantitative results indicate a positive reception among participants, manifesting in satisfaction and a perceived alignment with NEP 2020 goals. Challenges such as resource constraints and social stigma have been identified as hindrances to effective implementation. Qualitatively, stakeholders emphasize vocational education's positive effects on students' holistic development, innovative strategies fostering practical skills, and successful collaborations with industries. The paper concludes with recommendations for ongoing improvement, acknowledging the dynamic nature of vocational education. In its entirety, this research provides a nuanced and thorough perspective on vocational education, presenting valuable insights for policymakers, educators, and industry stakeholders. By addressing challenges and leveraging successful initiatives, the study contributes to the ongoing dialogue on the integration of vocational education within NEP 2020, aiming to enhance its effectiveness and contribute to the evolution of a more resilient and responsive educational framework.

Keywords: National Education Policy (NEP) 2020, Vocational Education, Curriculum Alignment, Experiential Learning, Holistic Learning

1. Introduction

Education is a boon for human beings, it leads to the development of human beings in all spheres of life. It enables a person to live life in a way that is helpful to society and the nation. The growth and development of a nation depends upon the quality of education which is being provided to the people. The economic activities of a nation are also affected by education. It can be seen from the preview of the current world scenario that some nations have advanced in economic parameters as compared to other countries. This advancement is due to the skillfulness of the people of these countries.

The skill and attitude depend upon the educational, social, and cultural background of the people. It can be said that there is some specific area which belongs to the people who do business. They can take risks and entrepreneurship is the result of the capacity to take risks and by giving proper training or orientation, it can be increased or enhanced. There is a lot of demand in the world for some colleges and universities for admission. This is due to the culture of that particular institution adopted, the culture is an environment of the institution which provides a positive attitude and synchronization of resources (Murtazaev, 2021).

The education system can imbibe the required values in its Beneficiaries. These values may differ according to the place and time. It depends upon the aim of education in that particular place e.g., in the Indian context these values may be democratic traditions, secularism, civil

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liberties, equality, fraternity, freedom and justice, etc. Several nations offer specialized education in technical fields, allowing students to specialize in specific areas. Certain European countries, including Germany, France, Italy, and the United Kingdom, have excelled in vehicle manufacturing techniques, maintaining a dominant position in the market. In Asia Japan and South Korea also maintain their edge in some industries. The dominance in the market in the long term exists due to the environment of that country especially the education system which consists of curriculum and practical training including vocational education. Education is the training of the head, heart, and the hands of the educated. Education is a preparation for life as a good education is the foundation of a bright and better future for children. Great minds have stressed again and again that education is good when it helps a child earn a living and teaches a child how to live. Education has the power to lift people out of poverty as it is a means to a rewarding career. Education helps a person in gaining economic independence by educating him/her to be self-reliant in earning a living. Mahatma Gandhi stressed that "Education ought to be for them (children) a kind of insurance against unemployment". Given the above facts, various governments, ever since independence, have been pushing for the need for skill development among their citizens so that they can be productive and thus prove to be an asset for their families and nation as well. Skill development has gained far more importance since the advent of the free market economy. A further push for skill development has come from the government's recent emphasis on 'Atmanirbhar Bharat'. Introduction of Vocational Education Courses in schools is an effective way to achieve skill development among students so that they become productive citizens and contribute to the development of the nation (Sridevi, 2020).
One of the first countries was Japan which reaped the benefits of a demographic dividend from 1964 to 2004. India also had the same opportunities that some developed nations benefitted from in the past. In 2017-19 NSSO stated that the labour participation in India is very low about 53%, which means around 47% of working-age people are jobless. To get rid of this situation the Government needs to build human capital by investing in healthcare, education, skills, and jobs. Skill development is the most crucial element that will be helpful to increase in capability of a person and will lead to an increase in employability. The Government set a target of skilling 500 million people in India and established the NSDC for this purpose. The government also gave special attention to vocational education for school students under the NSQF scheme.

Vocational Education

Vocational education is a bridge between the general education and the demand of industries. Vocational education targets school children who are going to leave the school system and later they will be able to pursue that vocational stream as higher education for further advancement of skills or they may directly go the work for employment. It is treated as a 'wise investment decision' for both the individual and the nation. The development of science and technology is so advanced that new dimensions and new horizons of work are opening day by day. It is required to fulfill this gap by providing education properly with the required employable skills and motivation to the citizens of a nation. Vocational education is related to science and technology so it is also known as vocational and technical education or VET. It enables a person to be an expert in a particular technology which leads to getting skills for a specific job or vocation (Murtazaev, 2021).
VET scope is very wide, which comprises all trades and training e.g., mechanics to handicrafts, and courses such as knitting, tailoring, painting, and tailoring, etc. It includes work-related education, which enables a person to be self-dependent in his life. The major challenge of VET is to meet the requirements of the society and industries. All governments want to increase productivity, it can be achieved only through a productive workforce or skilled workforce. In India, the population is the second largest in the world, but here the students want to do government jobs, and the general education is focused on the preparation of white-collar employees. There is tough competition for government jobs, only a few vacancies are available each year, so more people are required to go for work-oriented education. The concept of 'Entrepreneurship' originates from vocational education, it can provide a job and a sense of ownership to more people.

The NSSO described the vocational education under two categories) Formal Vocational Education and Training ii) Informal Vocational Education and Training (Unnisha, 2020).

A. Formal Vocational Education and Training

It is provided under the aegis of any affiliated institution and after completion of the course, a completion certificate, diploma, or degree is conferred upon the trainee by the institution. This training can be pursued by the students under a structured and planned curriculum and desired outcomes. The certification helps the trainee to get a job in the organized sector which provides validity and reliability of the skill obtained. Nowadays, various private as well as public institutions provide vocational education.

B.Non-Formal Vocational Education and Training

It is provided outside the boundary of formal education, where the learner gets skills from some other than the VET Trainer. These persons may be actual businessmen craftsmen or handicrafts who earn their livelihood by that work or occupation and impart skills with the actual execution of work. It leads to both productivity and training side by side. This type of training is provided with heredity business where a family business is run and maintained by the family member. The younger of the family learn to do business with time automatically. In case any person wants to learn a new skill other than his/her heredity business, then it is also possible. This method was followed in old times but in modern times a great emphasis is put on professional training.

Need for Vocational Education

Over time, the nature of education has evolved towards a more academic and theoretical focus, resulting in a gap between graduates and practical skills, contributing to unemployment. Reintroducing a practical dimension to education not only enhances its relevance but also cultivates employable skills. Recognizing the urgency of the situation, the government must prioritize vocational education.

India currently grapples with numerous challenges, and a pivotal factor in addressing these challenges lies in increasing the country's gross national productivity, thereby fostering economic growth. With a sizable young population, India stands to benefit from this demographic dividend. However, to fully harness this potential, the population must be well- trained and equipped with the necessary skills for both agricultural and industrial development. Skill development through vocational education can help realize this national objective by utilizing human resources to the fullest and in the best way possible. This ensures a decent livelihood for an individual and also enables him/her to contribute towards the development and growth of the nation (Rathidevi & Sudhakaran, 2019).

Also, plain and pure academic is not suited to the interests, abilities, and aptitudes of all the students and such students are branded as uneducated by the education system. Vocational education can help these students invest their energy, time, and effort in developing some practical and employable skills so that they can find suitable employment or may even become self-employed and a productive citizen of the nation.

Vocational Education within the Framework of National Education Policy 2020 for Holistic Learning

The National Education Policy (2020) distinctly emphasizes the necessity of vocational education and outlines a comprehensive plan to foster its growth in the country. The policy endeavors to enhance the accessibility, flexibility, contemporariness, relevance, inclusivity, and creativity of vocational education.

The recommendations within the National Education Policy (2020) about vocational education are as follows:

Access

It is estimated that only 5% of the workforce in India between the age group of 19 to 24 have received formal Vocational training as opposed to South Korea where 96% in the same age group have received formal Vocational training. This affects the productivity and quality of work which is why even with cheaper labour, it is more costly to produce products in India.

The main reason is that till now Vocational Education in India has focussed on classes 11th and 12th primarily where a huge number of children drop out after class 8th. The NEP (2020) has recommended that Vocational Education should start from class 6th for which a program called Samagra Shiksha Abhiyan will be launched. This would give children exposure to the work environment and various career options early in their lives. Skill-based aptitude tests will help guide the students. Awareness programs will be organized to shed the stigma that vocational education carries.

Equity
The framers of NEP (2020) are aware of the fact that people perceive vocational education as being inferior to general education. It is widely believed that vocational education is meant for students who can't cope with general education courses. Such a perception prevents the students from taking up vocational education. Keeping this in mind the NEP (2020) proposes that vocational education be integrated into general education courses so that all the students learn at least one vocation and are exposed to many more.

Adaptability and Flexibility
The world of work keeps changing with the rapid advancement in the area of technology. It is, therefore, imperative that the curriculum of vocational education be up to date and keep adapting to the changes taking place. It is also important to develop the capacity in the students for lifelong learning and to provide support for the same so that they adapt to the changes successfully. Hence, it is expected that NCERT to integrate Vocational Education into the National Curriculum Framework. NCERT is also expected to prepare guidelines, teachers' handbook, and textbooks for Vocational Education.

Community and Industry Partnerships
Integration of vocational education into general education is to be carried out in a phased manner over 10 years. To achieve this objective, collaboration with ITIs, Polytechnics, local artisans, community members, local industries, etc. is to be sought.

Assessment and Evaluation
The assessment and evaluation of the students of vocational education is to be competency-based based for which the NCERT is to provide appropriate guidelines.

Professional Development of Vocational Teachers
Opportunities and support would be provided to the vocational teachers to keep themselves abreast with the latest developments in the field of their chosen professions. The support will be in multiple modes including digital and online modules, workshops, seminars, teacher development programs, and similar other programs. PSSCIVE, with assistance from the Universities' Departments of Education, is to prepare teacher training modules and teachers' handbooks. Also, teacher education programs for promoting new teaching-learning methods among the teachers will be organized by NCERT, NIOS, CBSE, and other such bodies.

Higher Vocational Education
The vertical mobility of the students of vocational education courses must be ensured. NSQF is one step in this direction. It is planned that vocational education will be integrated into the school and higher education institutions in a phased manner. This is to be achieved in the next 10 years. It is expected that, by 2025, 50% of the students in schools and higher education institutions will have exposure to vocational education programs. NCIVE along with help from vocational education experts and representatives from various ministries and industries will help in the integration of vocational education into general education courses at the school level and also at the higher education level. NHEQF is to be formulated by GEC and it will align with NSQF to ensure seamless integration of vocational education in higher education institutes.

Open Vocational Education
Open and distance learning modes will also be utilized to promote and provide vocational education courses.

NSQF
NSQF will become more elaborate to cater to various vocations and professions. It will also become the basis of RPL which will help facilitate the reintroduction of the students who have dropped out as well as the students who want to transfer from general education courses to vocational education courses.
Lok Vidya
Local and old-age indigenous knowledge of various vocations will also be made available to the students.

Strengthening PSSCIVE
PSSCIVE will be strengthened by making available quality human resources, funds, infrastructure, and technological inputs. This will help PSSCIVE in its role of proliferating vocational education on a massive scale.

2. Literature Review
Chakravarty, D. & Gupta, M. (2020) stated in their article, "Current and Emerging Challenges in Vocational Education" about the challenges faced by the vocational education stream and suggestions to improve the quality of vocational education provided in India. A National Policy for Skill Development and Entrepreneurship was formulated in 2015 and a target to train 40 crore persons by 2022 and to implement it in necessary fame work and agencies established which included NSQF, SSCs, NSDC, etc. Many challenges faced by vocational education e.g., it isn't aspirational for the students, parents, and community. There are a variety of reasons social and economic, government initiatives aren't adequate in terms of coverage and integration with the formal education system, and school infrastructure like trainers, workshops, and industry linkages not being sufficient to impart skills and high-quality vocational education. Vocational education plays a very important role in enhancing the skills and employability of youth and providing a suitable person in the job market. It is necessary to increase the awareness of parents and community and sensitize them about the vocational education benefits and the marketability of skills to be provided in the schools. The schools should take an active part in this initiative and provide the required infrastructure along with training teachers to achieve the desired quality of vocational education. Vocational education is crucial for every nation's development, so all the stakeholders need to take it very seriously.
Jeyaraman, A.K. (2020), stated in his article, 'Significance of Vocational Education in India' that Vocational Education strengthens the employment and economy of a country and India has come a long way to implement and enhance vocational education. According to an NSSO report from the population aged between 15 and 29 years, only 10% of persons received vocational training comprising 2% formal training while the rest 8% got non-formal training. Only 3% of the formally trained persons are employed. The vocational training provided by ITI has been successful but most of the private institutions which are providing vocational training haven't been recognized by the government. The VET system in India faces the problem of (a) a high drop-out rate at the secondary school level, (b) generally it is offered at the senior secondary classes level, (c) lack of industry and private organization participation
(d) very limited number of TVET institutions (e) non-availability of adequate trained faculties (f) no opportunities for continuous up-gradation of skills (g) demand and supply mismatch for various skills and current system isn't responsive for it (h) Structurally rigid and outdated vocational education institutions. To reap the benefits of vocational education effectively India needs to revamp the critical elements of TVET to make them contemporary, flexible, inclusive, relevant, and creative. To stimulate and support reforms and to facilitate nationally standardized and acceptable qualification for skill development an international comparability of qualifications framework called, 'National Vocational Qualification Framework' is established by the Government of India and an inter-ministerial group is set up to develop guidelines for framework.
Raman, S. & Majumdar, K. (2023) stated in their article, "Vocational Education in the NEP 2020: Opportunities and Challenges" discussed the slow pace of vocational education from

the education policies and implementation of educational policies. The vocational education GER is very low in India as compared to other developed countries like the USA, Germany, and South Korea. Two causes identified for the failure of vocational education in India were: 1) organization and management of vocational education showed that in SUPW, the fragmented curriculum implemented and there was no formal and proper linkage set up for the growth of vocational education. 2.) Social stigma, assumes the students of vocational education as second-class citizens in society. As NSSO (2017-18) data showed in vocational education courses enrolment, the urban student ratio is less than rural students in ITI and polytechnics. The reason behind that academic courses and their job is treated as superior to vocational course and their related job and there are separate verticals for two and limited mobility between the two streams. The vocational school fallacy is much better understood by academics than the policymakers. NEP,2020 reaffirmed its faith in vocational education addressed the challenges faced by Vocational education, and made efforts to mitigate the challenges of the demand and supply side of the skilled workforce. It discarded the theoretical part and emphasised on practical aspect of vocational education. To make it more structured, NEP recommended using local resources as a guide and emphasized NSQF so that prior skills may be recognized in the form of credit, and drop-out may be integrated into mainstream education. NEP reappraised the challenges associated with it and strategies to mitigate them.

Sheyam, K. (2020) stated in her article, "Meta-Analysis of Role of Vocational Education in Employment Generation in Jharkhand (Special reference from 2014-18)" that her work is based on the meta-analysis of the employment generation rate which is affected by the vocational institution established in the state of Jharkhand by taking two good vocational education institutions. The objectives of the study were to highlight the impact of VET on Employment generation and to study the quality of education imparted by the VET institutions. Methods of data collection were primary as well as secondary sources of data. The major findings stated that during the study period 2014-18, the employment generation rate declined due to an increase in vocational courses and their intake capacity and VET has shown a lower impact on employment generation due to inefficient placement cells of these institutions. The problem of unemployment is still prevailing in the form of educated unemployment and this leads to a dilemma for those youth as their careers lead to waste of time and money. The main suggestions given were: (a) The vocational institution should have a proactive cell that may bring more companies and entities for the placement of students, (b) Identify the weakness of vocational courses which have given lower placement and required amendments in these courses should be done. (c) The quality of vocational education should be improved so that self-employment of youth may be promoted.

Sharma J. (2018) undertook a study titled, "Study of status and problem faced by the school under the Directorate of Education Delhi in implementing vocational education at plus 2 level". The major objectives of the study were to study the various types of vocational educational courses offered at the +2 level of the school, the study the trend of preference of girls and boys towards vocational courses, to study the academic qualification and experience of vocational trainer, to study the problems experienced by the schools under Delhi Government and investigate the causes that put hurdle in the implementation of vocational courses, to study the facilities available for vocational education courses in the schools, to recommend such measures so that vocational education may be properly utilized by the stakeholders. The sample consisted of 500 students, 60 teachers, and 20 Principals from randomly selected 20 schools in South Delhi in which vocational education courses were being taught. The tools used by the researcher were questionnaires for students and teachers and interview schedules for the principals of the schools. The major finding of the study was that there were 36 courses provided by the Directorate of Education but in actual practice, only 11 courses were offered to the students of the vocational stream, the teaching aids were not available in sufficient quantity even the text-books available were of very old edition, most of the students had taken admission in the vocational courses to get employment, school lab facilities were not sufficient as per the requirement of the courses, all vocational teachers were not permanent, the vocational subject like computer application needs computer set in sufficient number and regular practice in school but in schools, the facility of the generator was not available in case of a frequent power cut, the students of vocational education hadn't confidence in the courses, so 60% of the students opted for general education for higher studies and only 40% opted vocational higher education. The student-teacher ratio should be maintained because only three teachers were provided by the government to teach vocational courses.

3. Research Methodology
This study employs a mixed-methods approach with a sample size of 200 participants to investigate the integration and impact of vocational education within the framework of the National Education Policy 2020.

Research Design:
A concurrent triangulation design is utilized, combining qualitative and quantitative data collection methods to ensure a comprehensive analysis.

Sampling Techniques:
Purposive sampling is employed to select 200 participants, including students, teachers, and administrators, from educational institutions actively implementing vocational education programs under the NEP 2020.

Data Collection Methods:
Surveys: A structured survey questionnaire is administered to gather quantitative data on the perceived impact of vocational education. The sample size ensures representation across diverse perspectives.
Interviews: In-depth interviews with key stakeholders, including educators and industry representatives, provide qualitative insights into challenges and successes related to vocational education.
Document Analysis: Relevant documents such as curriculum guidelines are examined to provide context and support findings.

Data Analysis Techniques:
Quantitative Analysis: Survey responses are statistically analyzed using descriptive statistics, offering insights into overall trends and patterns.

Qualitative Analysis: Thematic analysis of interview transcripts and document analysis enriches the understanding of the holistic impact of vocational education.

Ethical Considerations:
The study adheres to ethical principles, ensuring participant confidentiality, informed consent, and the right to withdraw. Ethical approval is obtained from relevant institutional bodies.

4. Data Analysis and Interpretation
A. Quantitative Analysis Results
Section 1: Participant Demographics
Section 1 data analysis and interpretations provide an overview of the demographic characteristics of the survey participants, offering insights into the gender, age group, and educational roles represented in the sample.

Age Group	Frequency	Percentage	Cumulative Percent
18-25	67	33.5%	33.5%
26-35	83	41.5%	75.0%
36-45	38	19.0%	94.0%
46+	12	6.0%	100.0%
Total	200	100%	

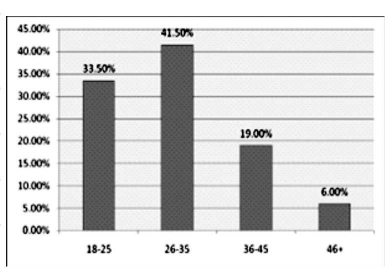
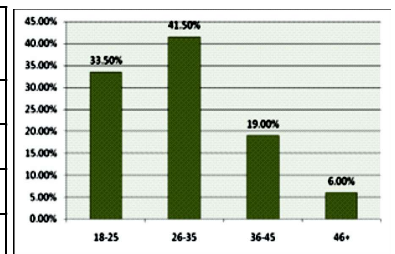


Table 1.
Gender Distribution

Interpretation:
The majority of participants in the survey are females (55%), followed by males (44.5%), and a very small percentage identifying as "Other" (0.5%).

Table 2.
Age Group Distribution

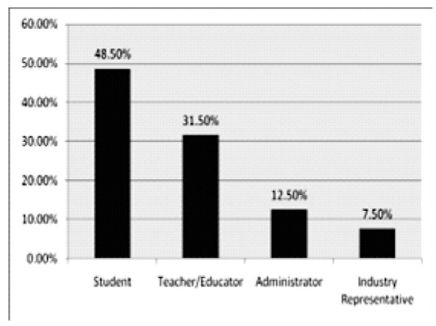
Age Group	Frequency	Percentage	Cumulative Percent
18-25	67	33.5%	33.5%
26-35	83	41.5%	75.0%
36-45	38	19.0%	94.0%
46+	12	6.0%	100.0%
Total	200	100%	



Interpretation:
The majority of participants fall within the age group of 26-35 (41.5%), followed by the age group of 18-25 (33.5%). The least represented age group is 46 and above (6%).

Table 3.
Educational Role Distribution

Educational Role	Frequency	Percentage	Cumulative Percent
Student	97	48.5%	48.5%
Teacher/Educator	63	31.5%	80.0%
Administrator	25	12.5%	92.5%
Industry Representative	15	7.5%	100.0%
Total	200	100%	

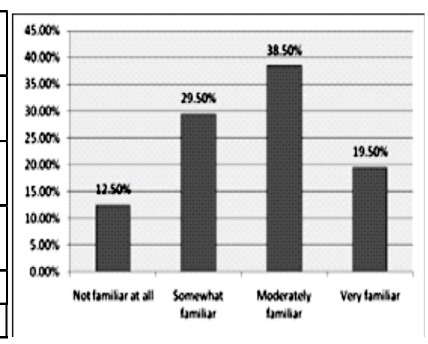


Interpretation:
Half of the participants are students (48.5%), while teachers/educators constitute 31.5% of the sample. Administrators and industry representatives make up 12.5% and 7.5%, respectively.

Section 2: Perceptions of Vocational Education
Section 2 data analysis and interpretations provide insights into participants' familiarity with NEP 2020, their beliefs about the alignment of vocational education with NEP 2020 goals, and their perception of the effectiveness of vocational education in enhancing practical skills.

Table 4.
Familiarity with NEP 2020

Familiarity Level	Frequency	Percentage	Cumulative Percent
Not familiarat all	25	12.5%	12.5%
Somewhat familiar	59	29.5%	42.0%
Moderately familiar	77	38.5%	80.5%
Very familiar	39	19.5%	100.0%
Total	200	100%	



Interpretation:
The majority of participants are either moderately familiar (38.5%) or somewhat familiar (29.5%) with the National Education Policy 2020. A smaller percentage is very familiar (19.5%), while 12.5% of participants are not familiar at all.

Alignment Level	Frequency	Percentage	Cumulative Percent
Not at all	15	7.5%	7.5%
Slightly	38	19.0%	26.5%
Moderately	79	39.5%	66.0%
Very much	68	34.0%	100.0%
Total	200	100%	

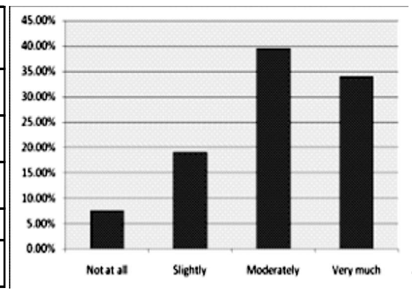


Table 5.
Belief in Alignment with NEP 2020 Goals

Interpretation:
The majority of participants (73.5%) believe that vocational education either moderately or very much aligns with the goals of the National Education Policy 2020. Only a small percentage (7.5%) feels that there is no alignment at all.

Effectiveness Level	Frequency	Percentage	Cumulative Percent
Not effective at all	11	5.5%	5.5%
Slightly effective	33	16.5%	22.0%
Moderately effective	79	39.5%	61.5%
Very effective	77	38.5%	100.0%
Total	200	100%	

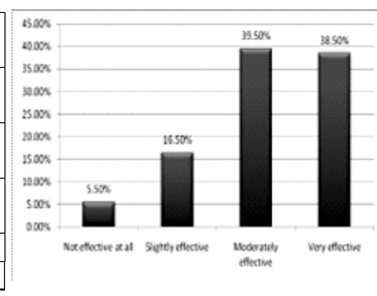


Table 6.
Effectiveness of Vocational Education in Enhancing Practical Skills

Interpretation:
The majority of participants (78%) perceive vocational education as either moderately or very effective in enhancing practical skills. A small percentage (5.5%) considers it not effective at all.

Section 3: Impact on Holistic Learning
Section 3 of data analysis and interpretations provides insights into participants' opinions on how vocational education contributes to holistic development, critical thinking abilities, and preparedness for real-world challenges.

Holistic Development	Frequency	Percentage	Cumulative Percent
Negatively	5	2.5%	2.5%
No significant impact	15	7.5%	10.0%
Somewhat positively	68	34.0%	44.0%
Very positively	112	56.0%	100.0%
Total	200	100%	

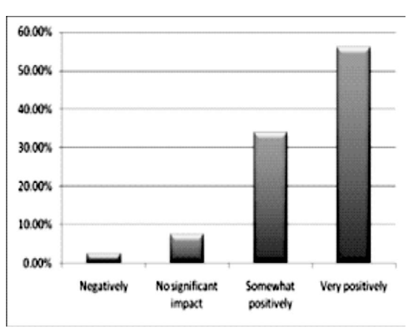
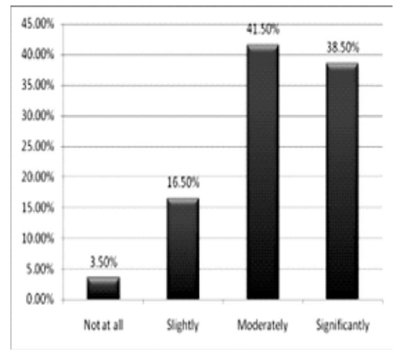


Table 7.
Contribution to Students' Holistic Development

Interpretation:
The majority of participants (56%) believe that vocational education very positively contributes to students' holistic development, emphasizing cognitive, emotional, and social skills. Only a small percentage (2.5%) perceive a negative impact.

Table 8.
Influence on Critical Thinking Abilities

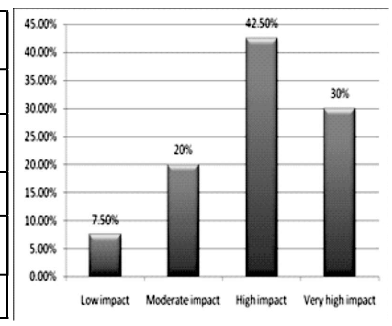
Critical Thinking Ability	Frequency	Percentage	Cumulative Percent
Not at all	7	3.5%	3.5%
Slightly	33	16.5%	20.0%
Moderately	83	41.5%	61.5%
Significantly	77	38.5%	100.0%
Total	200	100%	



Interpretation:
A substantial portion of participants (80%) believe that vocational education significantly influences students' critical thinking abilities, while only a small percentage (3.5%) perceive no impact.

Table 9.
Impact on Preparedness for Real-world Challenges

Preparedness Level	Frequency	Percentage	Cumulative Percent
Low impact	15	7.5%	7.5%
Moderate impact	40	20%	27.5%
High impact	85	42.5%	70.0%
Very high impact	60	30%	100.0%
Total	200	100%	

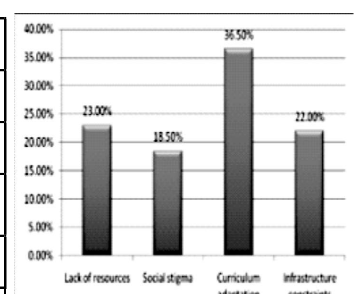


Interpretation:
The majority of participants (72.5%) believe that vocational education has either a high or very high impact on students' preparedness for real-world challenges.

Section 4: Challenges and Opportunities
This section of data analysis and interpretations provides insights into participants' perceptions of challenges and opportunities associated with the implementation of vocational education programs.

Table 10.
Perceived Challenges in Implementing Vocational Education

Challenges	Frequency	Percentage	Cumulative Percent
Lack of resources	46	23.0%	23.0%
Social stigma	37	18.5%	41.5%
Curriculum adaptation	73	36.5%	78.0%
Infrastructure constraints	44	22.0%	100.0%
Total	200	100%	



Interpretation:
The most commonly perceived challenge in implementing vocational education programs is curriculum adaptation (36.5%), followed by a lack of resources (23%). Social stigma and infrastructure constraints are considered challenges by 22% of participants each.

Opportunities	Frequency	Percentage	Cumulative Percent
Improved employability	78	39.0%	39.0%
Enhanced practical skills	67	33.5%	72.5%
Diverse career pathways	42	21.0%	93.5%
Better industry collaboration	13	6.5%	100.0%
Total	200	100%	

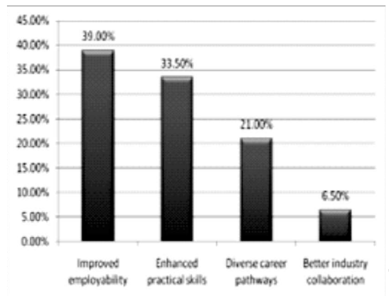


Table 11.
Perceived Opportunities in Vocational Education

Interpretation:
Participants widely recognize improved employability (39%) and enhanced practical skills (33.5%) as significant opportunities in vocational education. Diverse career pathways are seen as an opportunity by 21% of participants, while better industry collaboration is perceived by 6.5%.

Section 5: Overall Satisfaction
This section of analysis and interpretations provides insights into participants' overall satisfaction with the integration of vocational education within the NEP 2020 and their willingness to recommend it as a valuable component of the education system.

Satisfaction Level	Frequency	Percentage	Cumulative Percent
1 (Not satisfied at all)	5	2.5%	2.5%
2	9	4.5%	7.0%
3	17	8.5%	15.5%
4	21	10.5%	26.0%
5	23	11.5%	37.5%
6	30	15.0%	52.5%
7	28	14.0%	66.5%
8	17	8.5%	75.0%
9	15	7.5%	82.5%
10 (Extremely satisfied)	35	17.5%	100.0%
Total	200	100%	

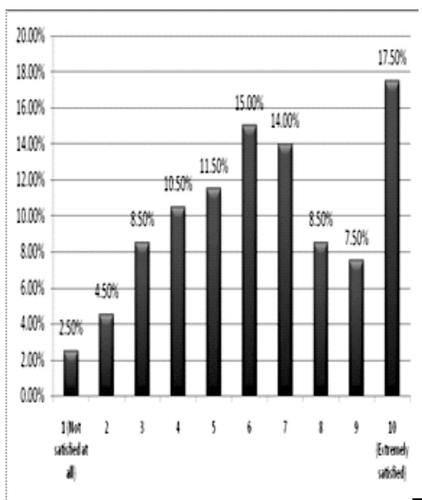


Table 12.
Satisfaction Level with Integration

Interpretation:
Participants' satisfaction with the integration of vocational education within the NEP 2020 varies, with a significant proportion (17.5%) being extremely satisfied (rating 10). The overall satisfaction appears to be distributed across the scale.

Recommendation	Frequency	Percentage	Cumulative Percent
Yes	149	74.5%	74.5%
No	25	12.5%	77.0%
Undecided	26	13.0%	100.0%
Total	200	100%	

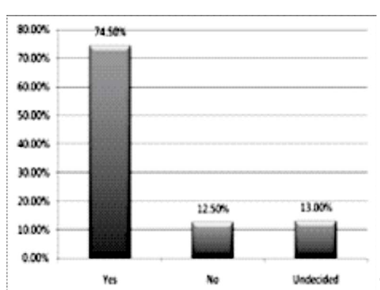


Table 13.
Recommendation of Vocational Education

Interpretation:
A majority of participants (74.5%) would recommend vocational education as a valuable component of the education system under NEP 2020, while 12.5% are undecided and another 13% would not recommend it.

B. Qualitative Analysis Results
These qualitative findings provide a nuanced understanding of the positive impacts, challenges, collaborations, innovative approaches, and recommendations related to the integration of vocational education within the NEP 2020. The themes and examples elucidate the complexities and potential areas for improvement in the implementation of vocational education programs.
Positive Influences on Students' Holistic Development

Table 14.
Themes Emerging from Responses

Themes	Examples/Anecdotes
Enhanced Cognitive Skills	Students demonstrated improved problem-solving abilities through real-world applications in their vocational courses.
Emotional Growth	Vocational education helped students gain confidence and a sense of accomplishment, particularly when completing hands -on projects.
Improved Social Skills	Collaborative projects and industry interactions facilitated the development of effective communication and teamwork among students.

Interpretation:
In Table 14, participants revealed that vocational education has a profound positive impact on students' holistic development, enhancing cognitive skills, fostering emotional growth, and improving social skills through real-world applications and hands-on projects. This underscores the multifaceted benefits of integrating practical experiences into education.

2. Challenges in Implementing Vocational Education under NEP 2020

Table 15.
Themes Emerging from Responses

Themes	Impact on Effectiveness
Lack of Resources	Limited funding hampers the provision of necessary equipment and technology, hindering practical learning opportunities.
Curriculum Adaptation	Adapting traditional curricula to align with vocational education requirements poses significant challenges for educators.
Social Stigma	Negative perceptions and societal biases create resistance among students and parents, affecting Enrollment and engagement.

Interpretation:
ITable 15 illuminated challenges faced in implementing vocational education under the NEP 2020, including resource constraints, difficulties in curriculum adaptation, and social stigma. These challenges pose significant barriers to the effective execution of vocational programs, hindering their widespread success and acceptance.

3.Impact of Vocational Education on Educational Institutions and Industries Collaboration

Themes	Examples of Successful Collaboration Initiatives
Internship Programs	Collaborative internship programs with industry partners provide students with real-
	world exposure and valuable work experience.
Industry Advisory Boards	Educational institutions establish advisory boards comprising industry experts to guide curriculum development and ensure relevance.
Joint Projects and Research	Collaborative projects and research initiatives enhance mutual understanding and bridgethe gap between academia and industry needs.

Table 16. Themes Emerging from Responses

Interpretation:
Table 16 showcased the positive outcomes of vocational education on collaboration between educational institutions and industries. Participants highlighted successful initiatives such as internship programs, industry advisory boards, and joint projects, illustrating how the integration of vocational education can bridge the gap between academia and industry, ensuring practical relevance.

4.Innovative Approaches Enhancing Practical Skills

Themes	Contribution to Experiential Learning
SimulatedWork Environments	Virtual labs and simulated work environments allow students to practice skills in a controlled setting before entering the actual workplace.
Project-Based Learning	Emphasis on project -based learning provides students with hands-on experiences, fostering practical skill development in a real-world context.
Industry-Modelled Curriculum	A curriculum designed in collaboration with industry experts ensures that students acquire the skills and knowledge demanded by the job market.

Table 17. Themes Emerging from Responses

Interpretation:
Table 17 delved into innovative approaches to enhancing practical skills in vocational education. Participants identified simulated work environments, project-based learning, and industry-modeled curricula as effective strategies. These approaches contribute to a more experiential learning environment, preparing students with the practical skills demanded by the job market.

5.Recommendations for Improving Integration of Vocational Education within NEP 2020

Themes	Recommendations
Curriculum Enhancement	Regularly update and align vocational curricula with industry standards to ensure relevance and responsiveness to emerging trends.
Teacher Training	Provide extensive training programs for educators to enhance their proficiency in delivering vocational education and adapting to evolving teaching methodologies.
Industry Collaboration	Strengthen partnerships with industries by fostering closer ties, encouraging joint ventures, and creating platforms for ongoing collaboration.

Table 18. Themes Emerging from Responses

Interpretation:
Table 18 presents recommendations for improving the integration of vocational education within the NEP 2020. Participants emphasized the need for continuous curriculum enhancement, comprehensive teacher training, strengthened industry collaboration, and community engagement to dispel social stigmas. These recommendations underscore the importance of ongoing improvement efforts to ensure the effectiveness and acceptance of vocational education programs.

5. Result and Discussion

A.Discussion based on quantitative data analysis

The quantitative data analysis focused on various aspects related to the integration and impact of vocational education within the National Education Policy 2020. The demographic analysis revealed a diverse participant sample, with representation from various age groups, genders, and educational roles, ensuring a comprehensive perspective on vocational education.

In terms of familiarity with the NEP 2020, the majority of participants reported being either moderately or somewhat familiar, indicating a baseline awareness of the policy. The belief in the alignment of vocational education with the goals of NEP 2020 was generally positive, with a significant proportion perceiving a moderate to very much alignment.

Participants expressed a high level of satisfaction with the integration of vocational education within the NEP 2020, with a considerable number providing ratings of 6 and above on a scale of 1 to 10. Additionally, a substantial majority (75%) would recommend vocational education as a valuable component of the education system under NEP 2020, showcasing a positive sentiment towards the integration of vocational programs.

Challenges identified through the survey included resource constraints, social stigma, and curriculum adaptation issues. These challenges highlight areas that may need targeted interventions to enhance the effectiveness of vocational education programs.

In terms of impact, participants perceived vocational education as significantly influencing students' critical thinking abilities and preparedness for real-world challenges. This positive perception suggests that vocational education is perceived as a valuable contributor to students' skill development.

Thus, the quantitative analysis indicates a generally positive outlook on the integration of vocational education within the NEP 2020. While challenges exist, the overall satisfaction, belief in alignment, and perceived impact on students' skills contribute to a favorable quantitative assessment of vocational education within the policy framework.

B. Discussion based on qualitative data analysis

The qualitative analysis provides a comprehensive understanding of stakeholders' perspectives on vocational education within the framework of the National Education Policy 2020. Participants highlighted several positive impacts of vocational education on students' holistic development, emphasizing cognitive, emotional, and social growth. The integration of real-world applications and hands-on projects emerged as a key factor contributing to these positive outcomes.

However, challenges were identified, including resource constraints, difficulties in curriculum adaptation, and persistent social stigma. These challenges pose significant barriers to the effective implementation of vocational education programs, indicating a need for targeted interventions and awareness campaigns to address these issues.

On a positive note, participants acknowledged successful collaborations between educational institutions and industries, citing internship programs, industry advisory boards, and joint projects as effective initiatives. This collaboration serves as a bridge between academia and industry, ensuring that vocational education remains relevant and aligned with real-world demands.

The discussion also highlighted innovative approaches to enhance practical skills, such as simulated work environments, project-based learning, and industry-modeled curricula. These strategies contribute to a more experiential learning environment, preparing students with the hands-on skills needed in the workforce.

The qualitative analysis concludes with recommendations for improvement, including continuous curriculum enhancement, comprehensive teacher training, strengthened industry collaboration, and community engagement to dispel social stigmas. These recommendations provide valuable insights for policymakers and educators to enhance the integration and effectiveness of vocational education within the NEP 2020. Overall, the findings underscore the multifaceted nature of vocational education, with both its positive impacts and existing challenges requiring thoughtful consideration and strategic interventions.

6. Conclusion

In conclusion, this research has provided a comprehensive exploration of vocational education within the framework of the National Education Policy 2020, blending both quantitative and qualitative analyses. The study aimed to understand the perceptions, challenges, and opportunities associated with the integration of vocational education, considering the diverse perspectives of stakeholders.

Quantitatively, the findings indicate a positive sentiment towards vocational education, with participants expressing satisfaction, belief in alignment with NEP 2020 goals, and a willingness to recommend it as a valuable component of the education system. Challenges such as resource constraints and social stigma were identified, emphasizing the need for targeted interventions to address these barriers.

Qualitatively, participants shared valuable insights into the positive impacts of vocational education on students' holistic development, innovative approaches enhancing practical skills, and successful collaborations between educational institutions and industries. Challenges identified included curriculum adaptation difficulties and social stigmas, while recommendations focused on continuous improvement, teacher training, and community engagement.

Combining both analyses provides a holistic understanding of the complex landscape of vocational education. The positive perceptions and experiences underscore the potential of vocational education to contribute significantly to students' development and workforce readiness. However, challenges highlight areas for improvement, calling for ongoing efforts in resource allocation, curriculum refinement, and societal perception shifts.

In moving forward, policymakers, educators, and industry stakeholders should collaborate to address the identified challenges, capitalize on successful initiatives, and implement the recommendations provided by participants. By doing so, vocational education can evolve into a transformative force within the education system, aligning seamlessly with the goals and vision outlined in the NEP 2020. This research serves as a foundation for informed decision- making and continuous improvement in the integration and impact of vocational education, ensuring a more robust and responsive educational landscape.

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The Upshot of Management Competency on Latent Growth of Unicorns

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Abstract

To assess an organization's development and success, its management team and financial reports serve as the cornerstones. Thus, the goal of this research is to unveil and measure the impact of the key financial as well as management-oriented determinants on revenue, growth, and profitability of e-startups especially tech startups or Indian Unicorns. The relationship and level of significance between the variables have been examined using multivariate analysis. The data of total 109 Startup Unicorns have been gathered for the study. While startup talky, LinkedIn profiles, and other sources have been used to get information on the management team characteristics, financial data has been gathered from the Traxcn, Crunchbase, and Dealroom databases. The previous startup and management experiences of the Indian Unicorns founders have a substantial and positive influence on EBITDA growth, and the authors discover that "Team Completeness" has a significant and positive impact on the financial parameters.

Keywords: Multivariate Analysis, Startup, Unicorn, Valuation, IBM SPSS

1. Introduction

In the last ten years, India's startup scene has grown at an exponential rate, making it one of the world's top startup ecosystems. The Global Startup Ecosystem Index report places the Indian startup ecosystem in 20th place globally. India does not appear to exhibit a significantly different valuation from its global peers, although when looked at with respect to the gross domestic product, its valuation is 10% higher, on average (Startup Genome, 2021) . Three primary criteria are used to assess ecosystems worldwide: the total number of startups, the calibre of companies, and the general business climate. Three Indian cities, Bengaluru (10th), New Delhi (14th), and Mumbai (16th)-are included in the top 20 global city ecosystems. But India has the third-largest startup environment globally, after the US and China, in terms of the quantity of unicorns (businesses valued at $1 billion or more) that are created. In order to fortify the startup ecosystem even further, the Indian government initiated the "Startup India" project in 2016. The goal of Startup India, which marked its seventh anniversary in January 2023, is to create a robust and welcoming environment for innovation and entrepreneurship while also igniting the startup culture (Startup India, 2018). Start-ups are facing extreme strain because of the decline in valuations and the difficulty of obtaining finance, particularly for those that benefited from the COVID-19 pandemic (Amit Mishra ., 2022)(Arora and Madan, 2023), (Kang, 2020),(Tiwari, 2023). As they are acknowledged for their critical role in innovation and economic progress, technology startups are significant drivers of regional employment creation(Blank et al., n.d.; Sulayman et al., 2014; Wheadon and Duval-Couetil, 2019). These firms, which are acknowledged as catalysts for long-term economic progress, also support the advancement of conventional industries by enhancing knowledge and innovation (Adler et al., 2019).(Díaz-Santamaría and Bulchand-Gidumal, 2021). Experts in economics, academia, and public policy, such as Joseph Schumpeter, acknowledge that the act of founding a firm, or entrepreneurship, is essential to economic success (Aghion and Howitt, 1992; Davis and Haltiwanger, 1992; Mcinnes, 1995; Sternberg and Wennekers, 2005) Innovation is a necessary component of economic development and value creation, and it is fueled by entrepreneurship. In summary, entrepreneurs are essential to economic growth.(De Rooij, 2015) For high-potential companies with a private market valuation of more than $1 billion, the phrase "Unicorn Club" is often used in business contexts(Lee and

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Oh, 2021). Financial and non-financial indicators, as well as lagging and leading indicators, are among the many different kinds of KPIs that are typically discussed. The financial performance serves as the foundation for financial metrics (Parmenter, 2015). (Elmborg et al., n.d.). Short-term goals are the primary focus of most business owners, who rarely undertake long-term financial planning. A slower-than-desired rate of corporate growth might result from this. A prospective business owner may learn a lot from a carefully considered financial strategy that takes the future into account (Tsiamis, 2019), (Dan Radak, 2017).

2.Literature Review

2.1 Indian Startups and Unicorns

An early-stage business, usually in the technology sector and with significant growth potential, is called a startup. Frequently, startups aim to upend the market with a really inventive concept.(Irene Cañete, 2018). Private enterprises deemed unicorns have headline values of at least $1 billion. Certain company founders are ready to give special rights to new investors in order to guarantee a share price that leads to a headline valuation of at least $1 billion, because they place such a high value on unicorn status (Davydova et al., 2022; Gornall et al., 2017). Entrepreneurs, investors, and politicians are all taking an interest in startups that have raised a minimum of $1 billion in value. Less focus has been placed on the part that the field of activity plays in unicorn success, despite the fact that unicorns' distinguishing traits have received a lot of attention (Tanvir ALAM SHAHI Md., 2023) The post-dot.com age has seen a rapid increase in the number of internet-based new initiatives as well as the growth of companies that are valued at a very high $1 billion, which Aileen Lee has dubbed "Unicorns." "Unicorns" is a startup mostly in the technology sector that has received venture capital funding and is valued at over $1 billion (Kerai, 2017).

2.2 Dependent Variable

In our study, Revenue growth and profitability are the dependent variables. They both are assumed to be dependent on the Management Team's Completeness, Startup as well as Managerial Experience.

2.2.1 "Revenue Growth"

Teams that founded ventures and have complementary experience tend to have stronger revenue growth. Additionally, prior research indicates a strong and favourable correlation between venture performance and entrepreneurial experience. Researchers (Hmieleski and Baron, 2009) discovered a negative correlation between startup performance and entrepreneurs' optimism. Industry dynamism and prior startup experience mitigated the consequences. As primary indicators of venture performance, they used revenue growth and employment growth (De Rooij, 2015). (Ghosh Saibal, 2022) looks at Indian unicorn traits from a global viewpoint. As of this now, unicorns are valued at over $3.4 trillion. The significance of the city start-up ecosystem, financing, and cost as major factors for high startup valuations is shown using multivariate regressions in his study. Revenue growth is one of the top priorities for technology firms. Since revenue is a function of both price and volume, it follows that, ceteris paribus, growth can only be achieved by an increase in one of these two factors. In the end, a company's industry and unique qualities will determine which growth approach has the most probability of success (Durmaz & Ilhan, 2015). (Berglund and Peebo, 2019) states that the selection of metrics for performance monitoring is an essential task for every organisation. Using too many KPIs might become overwhelming, hence it is advised to use fewer of them. In order to facilitate monitoring a company's growth process, it is essential to limit the number of critical KPIs (Wout Bobbink, 2019). It is possible to determine the revenue growth rate by calculating the annual percentage change in revenue growth. This rate shows how rapidly the business is growing, making it one of the most important indicators for any startup (geckoboard, 2023), (Aryan Jakhar, 2023; RON TIDHAR, 2020)

2.2.2 "Profitability"

Generating a profit is the primary objective of any business owner. For company owners, it's a prize. Investments in riskier initiatives are appealing to investors primarily for this reason

(Bednar et al., 2018). The research included some metrics to assess profitability, including Net Profit Growth, Net Profit Margin, EBITDA Growth, and EBITDA Margin. Although consistent profitability has historically been associated with business success, valuation is the most commonly utilised metric in the startup industry to determine success. These days, entrepreneurs focus more on growth and size than on profitability when starting a firm, and they plan for their eventual exit. There is a school of thought that predicts the startup bubble will collapse shortly due to high prices, similar to the dotcom boom of the late 1990s (James and Menon, 2022). A study conducted by McKinsey between 1980 and 2013 on a database of publicly listed software businesses indicates that organisations with $1 billion or more in revenue tend to emphasise profitability, whereas those with less revenue (up to $100 million) tend to favour growth. Still, businesses must ultimately shift their attention to profitability if they are to see sustained development (Nordfors, n.d.) Profit, which is aligned with shareholder interests, evaluates an executive's performance as they are rewarded for creating and growing profit. Profit is important, according to more recent study as well. According to Edwards' (2021) analysis of Penrose's (1995) resource-based perspective, Profit is the driving force behind managers' decisions, and the company's capacity to turn a profit serves as its final yardstick. Profit is seen as a crucial metric for determining if a corporation is profitable as well as an efficient way to evaluate management effectiveness and inspire the management team. From an accounting standpoint, profit may be further defined as the amount of financial gains made by a firm after deducting the costs associated with introducing its goods or services to the market (Eurostat,2013) Two components related to profit, income, and cost are included in this definition. Companies may choose to grow their market share and sales to boost income, or they can choose to cut expenses while maintaining the same revenue levels (Peng and Lucena, n.d.). The difference between revenue and profit after deducting cost of sales (COS) is known as gross margin, which is the gross profit expressed as a percentage of revenue. Net profit is the amount left over after taxes and interest are deducted from a business's operational profit or loss (geckoboard, 2023). Operational profit is the business's profitability before taxes and interest are deducted. Operational costs are deducted from gross profit in order to calculate operating profit. Because it shows the income and costs that managers can control, operating profit is an important metric to keep an eye on. Earnings before interest and taxes, or EBIT, and operating profit are synonymous (Business Literacy Institute, 2023). (Chris B. Murphy, 2023) EBIT can be shown as operational profits in an organization's income statement but is not a GAAP statistic or identified on financial statements. EBITDA shows the profitability of an organization's operational performance by taking depreciation out of the calculation of a company's earnings. Profit margin as a proportion of revenue is calculated using the EBITDA margin (profits before interest, taxes, depreciation, and amortisation). According to the literature (Inês and Cardoso, 2023) states the primary factors that define a startup's worth are its potential market size and growth, as these factors impact the startup's prospective income and profitability. The potential market share and profitability of the business are also determined by the competitive environment and the startup's competitive edge.

2.3 Independent Variable

2.3.1 "Management Team Completeness"

Team size and company success have been related in empirical studies. (Peng and Lucena, 2023; Sternberg and Wennekers, 2005)discovered that, in a sample of high-tech businesses, team size was associated with better revenues, while (Keeley and Roure, 1990) discovered that a key predictor of the internal rate of return for new ventures was team completeness, which may be strongly connected with team size. (De Rooij, 2015) A new venture's Top Management Team (TMT) may consist of the following important positions: I CEO/President; (ii) VP of marketing/sales/business development; (iii) VP of engineering/technology; (iv) VP of finance/controller; and (v) Operations/Production/Manufacturing (for manufacturing ventures) (Miloud et al., 2012) . Scholars have concentrated on team completeness or the extent to which the original team members hold all important positions (CEO, CFO, CTO, and CMO). (Eesley et al. 2013; Miloud et al. 2012; Roure and Keeley 1990; Siegel et al. 1993).(Taji and Niiya, 2016) (Tiwari, 2023)

2.3.2 "Founder's Startup and Managerial Experience"

Experience and expertise make up the first group of factors that influence the success of a new enterprise. Success in entrepreneurship is correlated with a few organizational determinants. It is noteworthy that individuals who possess distinct expertise, a network, and professional experience in company management tend to have more entrepreneurial success than those who lack these attributes. The human capital of new technology company founders and the success of new ventures are correlated. The team's education and past job experience make up the founders' human capital. Entrepreneurs with a background in economics, management, or science typically have higher growth rates than founders with a background in other sectors. Additionally, growth is favorably correlated with a founder's prior expertise in the industry of their new business. Lastly, a team with members who have already experienced entrepreneurship also grows more effectively (Colombo and Grilli, 2005). Venture capitalists evaluate new companies to determine which ones are the best to invest in using similar criteria pertaining to the traits of the entrepreneur or entrepreneurial team (Hofer, n.d.). (Elmborg et al., n.d.). The most crucial factors in evaluating a startup, according to the literature on the topic, are the calibre and experience of the management team, since these factors affect the firm's capacity to carry out its business strategy and meet its objectives (Inês and Cardoso, 2023). (Muzyka et al., 1996) discovered that VCs gave high rankings to each of the following five management team criteria: (1) the lead entrepreneur's leadership potential; (2) the management team's leadership potential; (3) the presence of recognised industry experts in the team; (4) the lead entrepreneur's track record; and (5) the management team's track record.

(Riquelme and Rickards, 1992)discovered that venture capitalists place a high value on the entrepreneur's background. There is a link between earlier founding experience and better valuation, as documented in earlier studies (Wasserman, 2016). Also, (Hsu, 2007) demonstrates that business owners who have previously founded startups and generated significant financial returns from their previous endeavors (i.e., an internal rate of return on Series A investments at an exit event of at least 100%) are able to command higher valuations for their subsequent ventures. A founder's background can have a beneficial or detrimental effect on a startup's valuation. On the one hand, a founder with extensive experience in the startup's area might benefit the business greatly by providing information, contacts, and skills. This may increase the startup's appeal to investors and raise its estimated valuation. A founder with excessive industrial expertise, on the other hand, could be perceived as being overly cautious and reluctant to take the risks required for a business to flourish. These entrepreneurs typically have backgrounds in business and are looking for greater compensation. Due to this, investors may become less interested in the business, which might diminish its worth. Furthermore, the startup's price may suffer if one of the founders has a history of failure. In the end, the particulars of each situation will determine how a founder's background affects a startup's valuation. A further noteworthy discovery is that a founder's past startup expertise does not always translate into better valuations (Riquelme and Rickards, 1992). Specifically, researchers look at how early adopters' dependence on a variety of diverse resources from their teams impacts the conversion of company concepts into successful new businesses (Kamm et al., 1990)(Muñoz-Bullon et al., 2015) There are two main reasons why teams are important to researchers and entrepreneurs: 1) they are more prevalent than one would think from reading about entrepreneurship; and 2) they have an impact on the performance of their enterprises. In addition to their sheer size, entrepreneurial teams have a big influence on the performance of their companies down the road (Baty, 1974);(Bird, 1989);(Stanley R. Rich, 1987). The research that is currently available suggests that VCs place a high value on evaluation factors pertaining to the startup team when making decisions. To be more precise, VCs usually highlight industry experience, leadership experience, administrative abilities, and engineering/technological skills as desirable attributes of start-up teams (Franke et al., 2008). The imprinting hypothesis postulates that one of the key determinants of a startup's early decisions is its founders' resources, such as their experience (Simsek et al., 2015), impacting both their current and future evolutionary paths (Marquis et al., 2018; Snihur and Zott, 2020).(Hashai and Zahra, 2022)The existing research has mostly focused on the impact of founders' past same-firm experience in supporting startup growth, evaluating the effects of founder teams originating from the same "parent firm" on the companies they form. This is because it is relatively easy to transfer expertise. (Agarwal et al., 2004);(Agarwal et al., 2013);(Chatterji, 2009). In doing so, this literature has frequently made the unfounded assumption that founders' previous experience with the same company likewise reflects past expertise in the industry that the startup works in (Sakakibara and Balasubramanian, 2019). The impact of a founder's previous experience in the same sector and business on a startup's subsequent development when the founder gains experience of their own has likewise received scant consideration in the literature (Hashai and Zahra, 2022) Researchers investigate the variety of the management team members' prior employment experiences, including whether they worked for startups upstream, downstream, or at the same level of the industrial hierarchy (Higgins and Gulati, 2003) (Higgins and Gulati, 2006)(Taji and Niiya, 2016).

3. Research Methodology

The profit and loss statement, often known as the income statement, is the most crucial of the three financial statements-the cash flow statement, balance sheet, and profit and loss statement-for illuminating a company's profitability. For this reason, the author looks closely at it. The P&L statement provides an overview of a company's expenses and income for a certain period. This declaration also states if the business is making money or not. The authors have used Revenue Growth, Net Profit Growth, Net Profit Margin, EBITDA Growth, and EBITDA Margin to measure the profitability of the sampled data and Revenue Growth to measure the growth. The authors also seek to determine the relationship and degree of significance between the financial metrics and characteristics connected to the management team, such as the founder's previous startup experience, previous managerial experience, and team completeness. In cases when the entrepreneur/founder has prior startup experience, the authors have coded "0" for "yes". The authors next provide "0" for "yes" if the founder has previous managerial expertise, and "no" and "1" otherwise. Also, the authors coded "0" for "yes" and "1" for "no" depending on whether the CEO was a member of the top management team or not. The authors defined prior startup experience as, whether a startup founder has founded any startup other than the current startup unicorn. Similarly, prior managerial experience has been defined as whether authors have managed any startup, or any organisation earlier or not. Revenue and profitability measures are the financial figures that have been taken as it is from the database in Dollars/Rupees as per the data availability.

4. Data Collection and Analysis

4.1 Data Collection

There are few tools and data available, especially when it comes to measures like valuation or round information, among other things, because the majority of startup firms are private and very hesitant to provide objective financial information. One of the largest and most reliable sources of information about tech ecosystems, startups, and growing enterprises is Dealroom. It contains reliable information related to Indian Startup Unicorn's financial information along with the valuation details. This information has been validated from other reliable sources like Crunchbase, Pitchbook, Traxcn database, etc. The list of 109 Indian Startup Unicorns has been taken from Startuptalky and has been cross-verified from CBInsights, Venture Intelligence. Management Team's related information such as their startup and managerial experiences, has been gathered from different secondary databases and publically available data from various magazine articles like Forbes magazines. Money control, Yourstory, Bloomberg, LinkedIn profiles, etc.

4.2 Data Analysis

The author (Brian C.Cronk, 2018)has defined multivariate analysis as tests using several dependent variables are referred to as multivariate tests. Even while doing several univariate tests (one for each dependent variable) is feasible, doing so results in Type I error inflation.

Similar to how an ANOVA examines all levels of an independent variable simultaneously, multivariate tests look at all dependent variables simultaneously. The MANOVA method operates on the assumption that all dependent variables are connected to one another. Every dependent variable needs to have a normal distribution and be quantified using an interval or ratio scale (Nasser Hasan, 2020). The Table below represent financial and management-oriented parameters for 109 Indian Unicorns till 2022. Here, Financial parameters i.e. Revenue Growth, Net Profit Growth, Net Profit Margin, EBITDA Growth, and EBITDA Margin are the dependent variables whereas Management related parameters i.e. Team completeness and founder's startup and managerial experience are the independent variables.

Table 1.

Between-Subjects Factors			
		Value Label	N
Prior Startup Experience of any of the founders	0	Yes	70
	1	No	729
Prior Managerial Experience of any of the founders	0	Yes	36
	1	No	763
All the top positions in the Unicorn are filled and complete	0	Yes	29
	1	No	770

In cases when the entrepreneur/founder has prior startup experience, the authors have coded "0" for "yes". The authors next provide "0" for "yes" if the founder has previous managerial expertise, and "no" and "1" otherwise. Also, the authors coded "0" for "yes" and "1" for "no" depending on whether the CEO was a member of the top management team or not. The authors defined prior startup experience as, whether a startup founder has founded any startup other than the current startup unicorn. Similarly, prior managerial experience has been defined as whether authors have managed any startup, or any organisation earlier or not. Revenue and profitability measures are the financial figures that have been taken as it is from the database in Dollars/Rupees as per the data availability.

Table 2.

Multivariate Tests[a]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.352	85.676[b]	5.000	789.000	.000
	Wilks' Lambda	.648	85.676[b]	5.000	789.000	.000
	Hotelling's Trace	.543	85.676[b]	5.000	789.000	.000
	Roy's Largest Root	.543	85.676[b]	5.000	789.000	.000
Founder_Startup_Experience	Pillai's Trace	.004	.665[b]	5.000	789.000	.650
	Wilks' Lambda	.996	.665[b]	5.000	789.000	.650
	Hotelling's Trace	.004	.665[b]	5.000	789.000	.650
	Roy's Largest Root	.004	.665[b]	5.000	789.000	.650
Founder_Managerial_Experience	Pillai's Trace	.000	.022[b]	5.000	789.000	1.000
	Wilks' Lambda	1.000	.022[b]	5.000	789.000	1.000
	Hotelling's Trace	.000	.022[b]	5.000	789.000	1.000
	Roy's Largest Root	.000	.022[b]	5.000	789.000	1.000
Team_Completeness	Pillai's Trace	.015	2.373[b]	5.000	789.000	.038
	Wilks' Lambda	.985	2.373[b]	5.000	789.000	.038
	Hotelling's Trace	.015	2.373[b]	5.000	789.000	.038
	Roy's Largest Root	.015	2.373[b]	5.000	789.000	.038
Founder_Startup_Experience * Founder_Managerial_Experience	Pillai's Trace	.000	.034[b]	5.000	789.000	.999
	Wilks' Lambda	1.000	.034[b]	5.000	789.000	.999
	Hotelling's Trace	.000	.034[b]	5.000	789.000	.999
	Roy's Largest Root	.000	.034[b]	5.000	789.000	.999

Founder_Startup_Experience * Team_Completeness	Pillai's Trace	.013	2.003[b]	5.000	789.000	.076
	Wilks' Lambda	.987	2.003[b]	5.000	789.000	.076
	Hotelling's Trace	.013	2.003[b]	5.000	789.000	.076
	Roy's Largest Root	.013	2.003[b]	5.000	789.000	.076
Founder_Managerial_Experience * Team_Completeness	Pillai's Trace	.000	.[b]	.000	.000	.
	Wilks' Lambda	1.000	.[b]	.000	791.000	.
	Hotelling's Trace	.000	.[b]	.000	2.000	.
	Roy's Largest Root	.000	.000[b]	5.000	788.000	1.000
Founder_Startup_Experience * Founder_Managerial_Experience * Team_Completeness	Pillai's Trace	.000	.[b]	.000	.000	.
	Wilks' Lambda	1.000	.[b]	.000	791.000	.
	Hotelling's Trace	.000	.[b]	.000	2.000	.
	Roy's Largest Root	.000	.000[b]	5.000	788.000	1.000

a. Design: Intercept + Founder_Startup_Experience + Founder_Managerial_Experience + Team_Completeness + Founder_Startup_Experience * Founder_Managerial_Experience + Founder_Startup_Experience * Team_Completeness + Founder_Managerial_Experience * Team_Completeness + Founder_Startup_Experience * Founder_Managerial_Experience * Team_Completeness

b. Exact statistic

Table 2 shows the main table of results. The column of real interest is the one containing the significance values of these F-ratios. For these data, Team Completeness is significant with p = .038 (which is less than .05). The first one gives the results of the multi-variate tests. Four different types of multivariate test results are given namely Roy's Largest Root, Wilk's Lambda, Pillai's Criterion and Hotelling's Trace. The most widely used is Wilks' Lambda. Thus, the answer for the MANOVA is a Lambda of 0.985. That value is significant.

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	(Revenue_Growth)	26065.854[a]	5	5213.171	1.470	.197
	(EBITDA_Growth)	61276.779[b]	5	12255.356	4.531	.000
	(EBITDA_Margin)	149140.588[c]	5	29828.118	2.304	.043
	(Net_Profit_Growth)	38576.616[d]	5	7715.323	1.902	.092
	(Net_Profit_Margin)	275685.220[e]	5	55137.044	.427	.830
Intercept	(Revenue_Growth)	348509.223	1	348509.223	98.272	.000
	(EBITDA_Growth)	488877.988	1	488877.988	180.756	.000
	(EBITDA_Margin)	2570269.537	1	2570269.537	198.519	.000
	(Net_Profit_Growth)	543931.348	1	543931.348	134.069	.000
	(Net_Profit_Margin)	12653053.765	1	12653053.765	97.881	.000
Founder_Startup_Experience	(Revenue_Growth)	2132.918	1	2132.918	.601	.438
	(EBITDA_Growth)	4312.212	1	4312.212	1.594	.207
	(EBITDA_Margin)	5917.630	1	5917.630	.457	.499
	(Net_Profit_Growth)	3312.763	1	3312.763	.817	.366
	(Net_Profit_Margin)	3122.608	1	3122.608	.024	.877
Founder_Managerial_Experience	(Revenue_Growth)	15.429	1	15.429	.004	.947
	(EBITDA_Growth)	62.553	1	62.553	.023	.879
	(EBITDA_Margin)	332.916	1	332.916	.026	.873
	(Net_Profit_Growth)	35.772	1	35.772	.009	.925
	(Net_Profit_Margin)	9330.659	1	9330.659	.072	.788
Team_Completeness	(Revenue_Growth)	7529.718	1	7529.718	2.123	.145
	(EBITDA_Growth)	9288.510	1	9288.510	3.434	.064
	(EBITDA_Margin)	45849.452	1	45849.452	3.541	.060
	(Net_Profit_Growth)	5257.492	1	5257.492	1.296	.255
	(Net_Profit_Margin)	62156.627	1	62156.627	.481	.488

Table 3.

Founder_Startup_ Experience * Founder_Managerial_Experience	(Revenue_Growth)	52.639	1	52.639	.015	.903
	(EBITDA_Growth)	36.431	1	36.431	.013	.908
	(EBITDA_Margin)	1775.349	1	1775.349	.137	.711
	(Net_Profit_Growth)	5.191	1	5.191	.001	.971
	(Net_Profit_Margin)	3565.831	1	3565.831	.028	.868
Founder_Startup_ Experience * Team_Completeness	(Revenue_Growth)	4313.516	1	4313.516	1.216	.270
	(EBITDA_Growth)	18946.826	1	18946.826	7.005	.008
	(EBITDA_Margin)	1680.894	1	1680.894	.130	.719
	(Net_Profit_Growth)	12833.684	1	12833.684	3.163	.076
	(Net_Profit_Margin)	1709.822	1	1709.822	.013	.908
a. R Squared = .009 (Adjusted R Squared = .003)						
b. R Squared = .028 (Adjusted R Squared = .022)						
c. R Squared = .014 (Adjusted R Squared = .008)						
d. R Squared = .012 (Adjusted R Squared = .006)						
e. R Squared = .003 (Adjusted R Squared =-.004)						

The above table gives the results of the univariate tests (ANOVAs) for each dependent variable. EBITDA Growth (sig. value = 0.008) depends on Founder_Startup_Experience * Founder_Managerial_Experience. Startup and managerial experience have a major influence on EBITDA growth, especially when it comes to India.

5. Findings and Conclusion

The study's primary results are "Team Completeness" has a significant, and positive impact, as seen in Table 2 above. Whereas, ANOVA Table number 3 gives Founder Startup Experience * Founder Managerial Experience determines EBITDA Growth (0.008 significance level). Startup and managerial experience have a major impact on EBITDA growth, especially in the context of Indian Startup Unicorns. The authors conclude that, albeit not entirely, category factors have a considerable influence on financial variables. Numerous other variables could also have a significant influence. These aspects can be examined and tested in an Indian context by future scholars. Based on prior research, the two most crucial pillars for every organization's expansion and performance are tied to top management and finances. As an alternative, the authors attempted to evaluate the two notions jointly to determine their importance in the Indian setting.

6. Discussion Based on Findings

The results show some variation from earlier research, which might be attributed to the unusually rapid rise of Indian unicorns, prioritizing higher valuation above profitability and eventually failing after launch. Furthermore, the findings can't be generalized because they are restricted to India alone. Some findings are consistent with the earlier studies which stated that the characteristics of top-level management employees and the startup experience also affects the startup unicorns valuations positively.

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Consumer Willingness To Pay High Price for Consumption of Organic Food Products: A Study of Indian Consumer

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Abstract

Purpose: Organic food is a sustainable, healthier alternative to normal food items. A positive inclination of consumers is observed around the globe towards these products, owing to the benefits it provides not only to human health but also to the environment. The present study is based on the extended version of Theory of Planned Behaviour. The study aims at measuring the mediating effect of Willingness To Pay a Premium on the relationship of Attitude, Subjective Norms, Perceived Behavioral Control and Environmental Concern with consumers' organic food Purchase Intention.

Methodology: The study was conducted using a structured questionnaire framed on 5-point Likert Scale, ranging from Strongly Disagree to Strongly Agree. The respondents were asked to rate the items of the constructs adapted from the extant literature and provide their respective demographic information (age, gender, education, occupation and income category). The sample size of the study was calculated on the basis of formula proposed by Cochran (1963). The questionnaire was distributed physically and through google forms to more than 500 respondents. For the final analysis, data collected from 425 respondents of Uttarakhand was considered which was analysed using Structural Equation Modelling (SEM) with the help of Smart PLS 4 software.

Findings: The findings revealed that consumers showed a positive intent toward organic food purchase. Purchase Intention was observed to be significantly influenced by Environmental Concern, Attitude and Willingness To Pay a premium. Further, Consumers' Willingness To Pay a premium significantly mediated the relationship of Perceived Behavioural Control and Subjective Norms with Purchase Intention that was insignificant when observed directly.

Practical Implications: The study on the grounds of the findings, encourages consumers to increase the intake of organic food in their daily diet and also provides valuable suggestions to the policymakers and marketers of such products. Marketers and policymakers should work towards converting consumers' positive intent towards organic food into actual demand. This would help them to have an extensive understanding of consumer behaviour towards the subject focusing on increasing the production and promotion of such goods.

Originality: The study is a genuine piece of research and will help to create awareness among consumers regarding the benefits of organic food products.

Keywords: Purchase Intention, Organic Food, Willingness To Pay a Premium, Mediation

1. Introduction

The National Programme for Organic Production (NPOP) describes organic food as products produced utilising an agricultural system that avoids synthetic fertilisers and pesticides in favour of a moral, socially conscious approach. Organic farming functions at the elementary level, preserving soil's ability to reproduce, regenerate, provide adequate nourishment alongwith sound soil management, resulting in nutritious food that is high in vitality and disease resistance. In the Indian context, the total area undergoing organic certification as of 2021, is 4339184.93 hectares (2020-21), including 1681295.61 hectares of land for wild harvest and 2657889.33 hectares of land for cultivation purposes. The majority of land in Madhya Pradesh has been approved for organic farming, with the next highest numbers in Rajasthan, Maharashtra, Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, and Karnataka. Sikkim achieved the incredible feat of converting its total arable land (>75000 acres) to certified organic cultivation land. In 2020-21, India produced approximately 3496800.34 metric

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tons certified organic products, including all varieties of food products such as oil seeds, fibre, sugar cane, cereals and millets, cotton, pulses, aromatic and medicinal plants, tea, coffee, fruits, spices, dry fruits, vegetables, processed foods etc. Besides the edible sector; organic cotton fibre, functional food items, are also produced. Madhya Pradesh is the greatest producer among the states, followed by Maharashtra, Karnataka, Rajasthan, and Uttar Pradesh, (https://apeda.gov.in). The study will contribute to a better understanding of customer opinions and intentions about organic food purchases. When compared to non-organic alternatives, organic food items are more expensive, which deters price-conscious customers from buying them. As a result, non-organic products are consumed in large quantities, which is bad for both the environment and human civilization. The study will help make the public aware of the advantages of organic food items, which will have an impact on how they will behave when consuming organic goods. The results of the study would be helpful to business houses in developing and manufacturing their products for the target markets.

2. Review of Literature

Extended Theory of Planned Behaviour

The present study is based on the Theory of Planned Behaviour proposed by Ajzen (1991). Ajzen (1991) proposed the Theory of Planned Behaviour (TPB) as an extension of the Theory of Reasoned Action (TRA). TPB highlighted the significance of attitude, subjective norm and perceived behavioural control towards formation of behavioural intention, which has a significant role in predicting actual behaviour. The willingness to carry out a certain action, like making a green product purchase, is known as intention. Green purchasing intention is the term used to describe when consumers give environmental problems some regard. In recent years, the perception of environmentally friendly behaviours and consumption patterns of green goods have gained prominence (Yang, 2017). Attitude is a person's propensity to constantly respond favourably or unfavourably to a certain object (Ajzen, 1991). It is impacted by the appraisal of outcomes and behavioural assumptions. Those who have a green mentality are more likely to buy green items than consumers who don't. People who care about the environment often alter their behaviour and aid in moving other people's behaviour toward green items. The behaviour that is expected of a person(s) by society as a whole and is impacted by normative belief and motivation is described as a subjective norm. The consumer's consumption habits are influenced by their subjective norm. Therefore, as a member of society, the consumer's identity and behaviour for making green purchases are inspired by the behaviour of reference groups (Fishbein and Ajzen, 1975). Two crucial components, Control Belief and Control Strength, substantially affects Perceived Behavioural Control (PBC). Perceived Consumer Effectiveness (PCE), which is also a PBC variation, is discussed in the TRA (Ajzen, 1991). PCE is about a consumer's confidence in his or her ability to make a good impact on the environment. These elements combine to create a comprehensive theoretical framework for forecasting human behaviour. The TPB model focuses on understanding customers' real behaviour; however, it can be more useful if the elements of consumers' Willingness to Pay a Premium (WTP) and Environmental Concern (EC) are examined alongside purchasing decisions. As a basic term, environmental concern involves thoughts concerning several environmental concerns (Zimmer et al., 1994). Willingness to Pay a Premium (WTP) describes how much money people are willing to spend on purchasing or eating organic products.

Pahari et al., (2023) investigated elements which guide online organic food purchase. The study examined the association between customer purchase intentions and attitudes towards organic food. Despite the fact, all components positively influenced customer attitudes towards organic food, the constructs of perception and health consciousness stood as the most important constructs impacting customer attitudes. Attitudes towards organic food facilitated consumer purchasing behaviour, which was again strongly associated with increased customer health and mental pleasure. The findings were significant for all organic food stakeholders, as creating a niche for organic food items required understanding customer concerns when adopting marketing approaches.

According to Patel et al., (2021), consumers remain inclined towards buying organic items if they have a favourable view toward them. It was also noted that customers' increased awareness of environmental concerns and their strong perception of the sensory qualities of an organic product may develop favourable attitudes toward organic food. Consumers' willingness for paying a higher price favourably influences their desire of buying organic food. The study suggests that customers' WTP towards organic food also translates into high purchasing intent.

Young Indian customers' intentions about green products were examined by Varah et al., (2021). WTP and EC were included in the authors' expanded Theory of Planned Behaviour model. Data analysis results demonstrated the expanded model's capacity to anticipate customer intention. The predictors were shown to have an interesting association both with purchase intention and among themselves. Customers' purchase intentions are highly influenced by the predictors, which is consistent with their impact on the dependent variable. According to the authors, Indian youth's awareness of green items and their favourable effects on the environment is the cause of these remarkable associations. As it was noted that Indian young were involved, emphasis was also placed on the necessity to properly craft the price approach.

In a comprehensive literature review-based analysis, Katt and Meixner, (2020) identified the characteristics shaping consumers' willingness to pay for organic food. While demographic impact was irregular, factors like consumer values and attitudes, particularly those regarding the environment and their health, consistently have a positive impact on WTP. It may be necessary to investigate the mediating or moderating effects of attitude regarding WTP for organic food. The place of origin, quality, and labelling are other characteristics that consistently and naturally generate a rise in WTP for organic food due to their communicational capabilities. The study concentrated on the need for more research into characteristics depending on the purchase venue because they are frequently disregarded but can prove to be substantial. The overall findings thus report consumers' WTP towards organic food despite the variation in premium.

Given that price acts as a barrier in organic food purchase, Molinillo et al., (2020) highlighted the significance of studying consumer WTP and their frequency of doing so. To study the problem, a structural model comprising the constructs of food safety concern, natural content, environmental concern, sensorial appeal, health and social consciousness was suggested and tested. Both components of consciousness were observed to influence the exogenous variables significantly and positively - social consciousness sharing stronger relationship with WTP and health consciousness sharing stronger relationship with purchase frequency.

Vapa-Tankosi? et al., (2020) in their research observed Serbian consumers for their preferences and readiness to pay more for various types of honey (organic and local honey). In comparison to the local honey (10-20% more expensive), Serbian customers demonstrated a willingness or ability to spend 20-30% more for the organic kind. Additionally, it was shown that the majority of honey users were women with just a high school degree and a monthly income of under 500 euros. The results made it clear that higher income has a favourable impact on the WTP for organic honey. Additional elements that significantly benefit, like food safety and support for the local community, are widely acknowledged to have a favourable impact on WTP for organic honey.

Basha and Lal, (2019) examined the variables influencing consumers' organic food purchase intentions in Chennai and Bengaluru. Environmentally conscious consumers showed a readiness towards paying more for organic food items. The prominence of agricultural activities among Indian households may have contributed to the genesis of this conclusion. Given the high levels of environmental pollution in India, particularly in major cities like Bengaluru and Chennai, the conclusion is equally remarkable. Consumers' subjective norms and purchase intentions towards organic food goods showed a similar interesting link. Consumers' inclinations to purchase organic goods were significantly impacted negatively by the factors of price and convenience. Respondents believed that organic goods were more expensive than non-organic items, they were nevertheless eager to buy them if stores selling them were conveniently located. Additionally, they were prepared to spend an additional 20% on organic food.

In the study of Carfora et al., (2019), organic milk purchase intentions of consumers in Italy were reportedly best described by their perceived behavioural control over such purchases. The significant impact of PBC (with a particular emphasis on lack of availability as the primary consumption barrier for organic food) on intentions shows that boosting the availability of organic milk can increase the consumption of the product. It was claimed that intents might be inferred by a favourable attitude toward organic milk. The idea that, although having a favourable view toward organic food, consumers do not choose the same because their ideological beliefs do not support it is backed by the fact that, for Italian consumers, purchasing organic milk in low quantities was associated with their habit. The desire of Italian consumers to purchase organic milk was also found to be influenced by subjective norms, suggesting that in the case of purchasing organic milk, the opinions of "significant others" may prove useful in helping to turn these ideas into a group norm.

James et al., (2019), reported that persons who are aware that no synthetic substances were utilised in the creation of organic tea may view it as advantageous. According to the authors, the advertising of organic products may be considerably impacted by this high correlation between the impression of organic foods and purchase intentions. The study's findings also confirmed the idea that purchasing intentions for organic tea would be favourably correlated with its standing as a status symbol. This is the study's most significant and intriguing discovery. The study's participants thought that a higher price for organic tea was a sign of greater societal standing and product quality. The study looked at the influencing role of consumers' demography on their organic tea purchase intentions. The findings reveal that education favourably effect consumers' inclinations to buy organic tea. It was shown that respondents' inclinations to buy organic tea were not significantly influenced by their income. It also investigated how gender functions as a demographic variable influencing buying intention. Compared to female respondents, men expressed a stronger desire to purchase organic tea. The intention of respondents to purchase organic tea was observed to have an inverse connection with their age. When compared to their younger counterparts, respondents on the older end of the age spectrum were shown to have relatively lower organic tea purchase intentions.

In their study, Nguyen et al., (2019) found that the value of a consumer organic food purchasing model is made up of significant components from the existing literature. Consumers' attitudes about eating organic food do not always translate into real purchasing behaviour. This highlights the attitude-Behaviour divide among Vietnamese consumers and can be linked to consumers' perceptions of organic food's high price, which serves as a deterrent to purchase. It was shown that environmental concern was the best indicator of attitudes. Vietnamese customers are becoming more concerned about the environment, as seen by their selections to buy eco-friendly goods.

Pham et al., (2019) explored the elements that can influence customers' views about and intents to buy organic food. Youth perceive the elements like flavour or environmental concern as insignificant in attitude formation toward purchasing organic food items. Other variables examined had an impact on consumers' opinions and intentions to buy organic food.

Qi and Ploeger, (2019), reported that attitude, perceived behavioural control, and subjective norms considerably influence consumers' eco-friendly purchase intentions. The findings suggested that among the TPB constructs, attitude proved to be the most significant component of the desire to purchase green foods, indicating that a favourable attitude toward green food is necessary to start sustained green consumption.

According to Konuk (2018), environmental concern is significant in exposing customers' buying intentions and their willingness to pay more towards organic food. Due to rising manufacturing activity, waste and consumption, people are more concerned about environmental damage. The study focused on pregnant women and their consumption habits, paying particular attention to how environmental concerns affected their plans of purchasing as well as their willingness to pay more towards organic food at this time. Pregnant women's consumption patterns are more environmentally conscious.

In their study, Schäufele and Hamm (2018), observed the attitude-behaviour gap among German consumers when it came to buying organic wine. German families demonstrated consistency in their attitudes and behaviours towards the purchase of organic wine, as such households were seen to spend significantly on its consumption. They also showed a high level of environmental responsibility.

Yadav and Pathak (2017) investigated Indian customers' green purchasing patterns while incorporating into original TPB model, the variables of perceived value and WTP. TPB predictors had a critical role in predicting Indian customers' behaviour and buying intentions when it came to green items. Among the factors that indicate whether someone would make a purchase, attitude, perceived behavioural control and subjective norms were shown significant starting with first factor. Furthermore, it was claimed that the additional factors of perceived value and WTP a premium influenced consumers' intentions to make green purchases substantially and insignificantly, respectively.

Maichum et al., (2016) examined the impact of the expanded TPB model on Thai consumers' intentions to purchase by using environmental concern as an additional variable. It was found that the core tenets of TPB significantly influenced consumers' purchase intentions. Except for the subjective norm, it was discovered that environmental concern had a considerable beneficial impact on purchasing intention, attitude, and behavioural control. According to the findings, all factors, except for subjective norms, effectively predict Thai consumers' desire to make green purchases.

According to Moser (2015), customers who are concerned about the environment show their concern in their purchasing decisions. WTP emerged as the most important predictor of environmentally friendly buying behaviour among the tested components, followed by consumer personal norms. A gap between attitudes and behaviours was also observed since attitudes had only a little impact on consumer green consumption.

Maloney et al., (2014), utilised TPB for examining customers' purchase intentions towards organic products. Participants' attitudes were shown to be the most important predictor of their desire to purchase among the tested components; perceived expensiveness and awareness also had an impact. Also, the notion of the subjective norm appeared to have a large influence on customers' desire to buy organic clothes goods, while the effect of perceived behavioural control was partially substantial.

Kai et al., (2013) observed that customers are more likely to favour organic goods. Customers feel that all the factors of the study acts as a driving force to choose organic products, excluding the high price, which they perceive as the lone deterrent.

Paul and Rana (2012) discovered that consumers were quite happy with their choice to eat organic food for several different reasons. They understood that buying organic food comes at a considerable cost, but they also thought that it was worth it given the advantages it offers to both customers and the environment.

The following hypotheses are put out in light of the literature review related to Attitude towards Organic Food (AO), Subjective Norms (SN), Perceived Behavioural Control (PBC), Purchaser Intention (PI), Environmental Concern (EC) and Willingness To Pay a Premium (WTP) as discussed above:

H01: AO has an insignificant relationship with PI.
Ha1: AO has a significant relationship with PI.
H02: AO has an insignificant relationship with WTP.
Ha2: AO has a significant relationship with WTP.
H03: SN has an insignificant relationship with PI.
Ha3: SN has a significant relationship with PI.
H04: SN has an insignificant relationship with WTP.
Ha4: SN has a significant relationship with WTP.
H05: PBC has an insignificant relationship with PI.
Ha5: PBC has a significant relationship with PI.
H06: PBC has an insignificant relationship with WTP.
Ha6: PBC has a significant relationship with WTP.
H07: EC has an insignificant relationship with AO.

Ha7: EC has a significant relationship with AO.
H08: EC has an insignificant relationship with PI.
Ha8: EC has a significant relationship with PI.
H09: EC has an insignificant relationship with WTP.
Ha9: EC has a significant relationship with WTP.
H010: WTP has an insignificant relationship with PI.
Ha10: WTP has a significant relationship with PI.

Mediating Hypotheses

H011: WTP does not mediate the relationship between AO and PI.
Ha11: WTP mediates the relationship between AO and PI.
H012: WTP does not mediate the relationship between SN and PI.
Ha12: WTP mediates the relationship between SN and PI.
H013: WTP does not mediate the relationship between PBC and PI.
Ha13: WTP mediates the relationship between PBC and PI.
H014: WTP does not mediate the relationship between EC and PI.
Ha14: WTP mediates the relationship between EC and PI.

3. Research Methodology

Given that it anticipates respondents' intake of organic food, this study is descriptive in nature. A structured questionnaire based on a 5-point Likert Scale, with a range of 1 (Strongly Disagree) to 5 (Strongly Agree), was used as a part of the survey to collect the data. Statements of Attitude were adapted from the previous studies of Taylor and Todd (1995), Subjective Norms from Vermeir and Verbeke (2008), Perceived Behavioural Control from Al-Swidi et al., (2014), Purchase Intention from Al-Swidi et al., (2014), Environmental Concern from Kilbourne and Pickett (2008), Willingness To Pay a Premium from Kai et al., (2013). More than 500 questionnaires were distributed out of which responses from 425 respondents were considered in the final data analysis. The formula suggested by Cochran (1963) was used to determine the sample size which suggested a minimum sample size of 385 respondents. Structural Equation Modelling was applied to analyse the data using the SmartPLS 4 software. Basic statistical indices analysis and advanced analysis are discussed in detail in the results section.

Respondents' Demography

Male respondents made up the majority of the sample (52.24%). Most of the respondents were of the young age group, i.e., up to 30 years (57.88%), followed by respondents in the 31-50 years age category (34.12%). Almost 90% of the respondents were highly qualified with 6% having a PhD. Around 50% of the respondents were from the service sector background with 25% in government service and 26% in private service. More than half of the respondents (53.18%) were in the lower-income category of up to Rs. 40,000 followed by 37.15% of respondents in the middle-income category of Rs.40001-Rs. 100000, (Table 1).

Table 1. Respondents' Demography

Demography (n=425)		Frequency	%age
Gender	Female	203	47.76
	Male	222	52.24
Age	Up to 30 Years	246	57.88
	31-50 Years	145	34.12
	Above 50 Years	34	8.00
Education	School Level	43	10.12
	UG	149	35.06
	PG	208	48.94
	PhD and above	25	5.88
Occupation	Government Job	110	25.88
	Private Job	111	26.12
	Others	204	48.00
Income	Upto Rs. 40000	226	53.18
	Rs. 40001- Rs. 100000	160	37.65
	Above Rs. 100000	39	9.18

Results

The data collected from primary sources through structured and standardised instruments was analysed with the help of advanced statistical tools on appropriate Structural Equation Modelling (SEM) platforms.

Normality Test

Before proceeding with data analysis, multivariate normality was assessed using Mardia's (1970) test, with the help of a web-based calculator (Zhang and Yuan, 2018). Mardia's multivariate skewness (β = 9.805, $p < 0.01$) and multivariate kurtosis (β = 71.791, $p < 0.01$) reveal the absence of multivariate normality.

As the data lacked multivariate normality, it was analysed with the help of Variance Based-Structural Equation Modelling (VB-SEM) based Smart PLS4 software, Ringle et al., (2022), using two-stage Structural Equation Modelling (SEM) starting with evaluating the Reflective Measurement Model and then proceeding to the Structural Model.

Reflective Measurement Model Assessment

In reflective measurement model assessment, constructs were checked for respective indicator loadings, internal consistency reliability and convergent validity. All indicator loadings were beyond the minimum acceptable limit of 0.5, (Hair et al., 2019). Reliability of the measurement model was validated as Cronbach's alpha, rho_A, composite reliability values were more than 0.70. Average Variance Extracted (AVE) assessed the constructs' convergent validity. AVE values of constructs were observed to be above 0.50, thus confirming the convergence of the items to their respective constructs. (Hair et al., 2019), (Table 2).

Constructs	Indicators	Loadings	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
AO	AO1	0.844	0.889	0.892	0.890	0.729
	AO2	0.903				
	AO3	0.813				
EC	EC1	0.793	0.839	0.844	0.839	0.512
	EC2	0.626				
	EC3	0.696				
	EC5	0.685				
	EC6	0.766				
PBC	PBC1	0.565	0.871	0.878	0.870	0.531
	PBC2	0.786				
	PBC3	0.790				
	PBC4	0.755				
	PBC5	0.657				
	PBC6	0.789				
PI	PI1	0.791	0.884	0.885	0.884	0.657
	PI2	0.784				
	PI3	0.839				
	PI4	0.827				
SN	SN1	0.795	0.917	0.918	0.917	0.689
	SN2	0.834				
	SN3	0.855				
	SN4	0.821				
	SN5	0.846				
WTP	WTP1	0.783	0.912	0.917	0.912	0.566
	WTP2	0.791				
	WTP3	0.651				
	WTP4	0.769				
	WTP5	0.573				
	WTP6	0.777				
	WTP7	0.833				
	WTP8	0.806				

*EC4 was removed to improve the value of Average Variance Extracted.

Table 2.
Construct Internal Consistency Reliability and Convergent Validity

Heterotrait-Monotrait Ratio (HTMT ratio), (Henseler et al., 2015) was used to evaluate constructs' discriminant validity. All values of HTMT ratios were well below the maximum accepted value of 0.85 (Kline, 2015; Henseler et al., 2015), (Table 3).

Table 3.
Discriminant Validity
(HTMT Ratio)

	AO	EC	PBC	PI	SN	WTP
AO						
EC	0.641					
PBC	0.537	0.384				
PI	0.686	0.514	0.697			
SN	0.579	0.355	0.636	0.642		
WTP	0.531	0.359	0.780	0.779	0.677	

Structural Model Assessment

Initially, the structural model was examined for multicollinearity issues. For this purpose, inner variance inflation factor (VIF) values were checked and no issues of collinearity were observed as all VIF values were below the maximum acceptable values of 3.33 and 5, (Diamantopoulos, and Siguaw, 2006) and (Hair et al., 2019), (Table 4).

Table 4.
Collinearity Investigation
(VIF values)

	AO	EC	PBC	PI	SN	WTP
AO				2.322		2.306
EC	1.000			1.716		1.716
PBC				2.831		1.835
PI						
SN				2.180		1.956
WTP				3.053		

Following the corroboration of non-collinearity, the structural model was evaluated on the aspects of path coefficient significance, R-square, f^2, and Q^2 predict. Results of path coefficients reflected a noteworthy relationship between AO and PI (β =0.276, p=0.000) but not between AO and WTP (β =0.070, p=0.269). EC shared a significant relationship with AO (β =0.643, p=0.000) and an insignificant relationship with WTP (β =0.006, p=0.912) and purchase intention (β =0.102, p=0.085). PBC had a significant relationship with WTP (β =0.571, p=0.000) but not with PI (β =0.098, p=0.237). Similar results were seen between SN and PI (β =0.054, p=0.450), SN and WTP β =0.271, p=0.000). WTP had a considerable influence over PI (β =0.486, p=0.000). Further, bootstrapping analysis was done to test the mediating effect of WTP. The construct of WTP was observed to mediate the relationship of PBC and PI (β =0.278, p=0.000, LL=0.160, UL=0.418), SN and PI (β =0.132, p=0.001, LL=0.065, UL=0.226). However, the same mediating effect was not observed between AO and PI (β =0.034, p=0.284, LL= -0.024, UL=0.104) and EC and PI (β =0.003, p=0.914, LL=-0.047, UL=0.057), (Table 5, Figure 1). The findings are consistent with the studies of Varah et al., (2021), Patel et al., (2021), Carfora et al., (2019), Nguyen et al., (2019), Chaudhary & Bisai, (2018).

Path	B	Stdev.	T	p	Confidence Intervals 2.5%	97.5%	Decision
Ha1: AO -> PI	0.276	0.068	4.040	0.000	0.139	0.408	Supported
Ha2: AO -> WTP	0.070	0.064	1.106	0.269	-0.050	0.198	Not Supported
Ha3: EC -> AO	0.643	0.062	10.438	0.000	0.505	0.744	Supported
Ha4: EC -> PI	0.102	0.059	1.721	0.085	-0.016	0.224	Not Supported
Ha5: EC -> WTP	0.006	0.052	0.111	0.912	-0.098	0.106	Not Supported
Ha6: PBC -> PI	0.098	0.083	1.181	0.237	-0.059	0.265	Not Supported
Ha7: PBC -> WTP	0.571	0.051	11.190	0.000	0.468	0.669	Supported
Ha8: SN -> PI	0.054	0.071	0.756	0.450	-0.088	0.193	Not Supported
Ha9: SN -> WTP	0.271	0.058	4.649	0.000	0.142	0.375	Supported
Ha10: WTP -> PI	0.486	0.099	4.927	0.000	0.298	0.688	Supported
Mediation							
Ha11: AO -> WTP ->PI	0.034	0.032	1.072	0.284	-0.024	0.104	Not Supported
Ha12: EC -> WTP -> PI	0.003	0.026	0.109	0.914	-0.047	0.057	Not Supported
Ha13: PBC -> WTP -> PI	0.278	0.067	4.172	0.000	0.160	0.418	Supported
Ha14: SN -> WTP -> PI	0.132	0.041	3.207	0.001	0.065	0.226	Supported

Table 5.
Path Coefficients

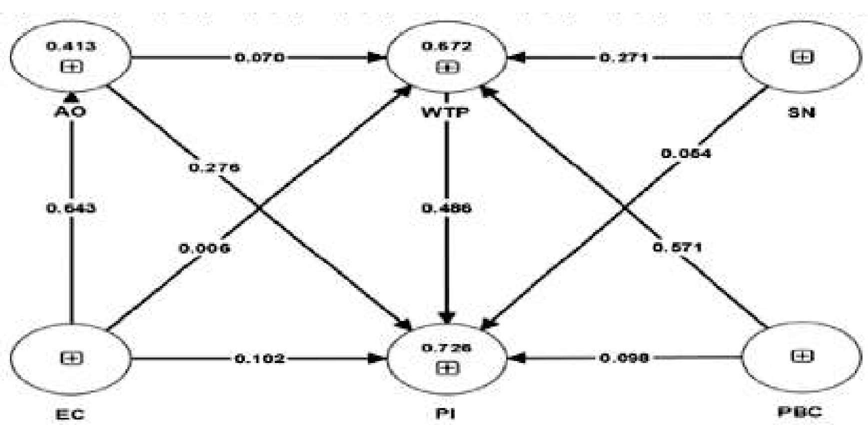

Figure 1.
Structural Model

Assessment of R^2, f^2 and Q^2 predict was done after measuring the path coefficients. The independent variables together explained around 73% variance of PI, demonstrating the model's strong explanatory power. Moreover, it was observed that as a predictor of PI, WTP (f^2=0.283) was most significant, followed by AO (f^2=0.120) and EC (f^2=0.022), (Cohen, 1988). The values of Q^2 predict for PI (0.480) indicates proposed model's predictive validity (Chin et al., 2020). The model fitness was checked using Standardized Root Mean Square Residual (SRMR) indicator. Hu and Bentler, (1999), suggests the value of SRMR should be below 0.085, which was achieved by the model of the study, (Table 6).

	f^2 AO	EC	PBC	PI	SN	WTP	R^2	Adj. R^2	Q^2 predict
AO				0.120		0.007	0.413	0.412	0.307
EC	0.704			0.022		0.000			
PBC				0.012		0.543			
PI				0.000		0.000	0.726	0.723	0.480
SN				0.005		0.115			
WTP				0.283		0.000	0.672	0.669	0.560

Table 6.
f^2, R^2, Q^2 predict Values

5. Conclusion

The study was undertaken to test mediating effect of WTP on the organic food purchase intention and its predictors. The organic food purchase intention was directly affected by consumers' attitude alone and not by opinions of the people significant to them, stating their strong belief towards organic food. Further, they also felt that undertaking organic food purchases was not under their control. A significant role of consumers' concern for environment was also witnessed only towards attitude formation and neither in motivating them to pay an extra price for organic food nor in strengthening their intentions to purchase these products. Consumers' WTP seems to be an important predictor of their purchase intentions reflecting that they show a readiness to pay an extra amount of money while purchasing organic food. The mediating role of consumer WTP on the relationship of subjective norm and perceived behavioural control with purchase intention was found significant. Consumers will undertake organic food purchase decision when their readiness to pay a premium price supports their subjective norms and the ability to undertake such behaviour.

6. Managerial and Theoretical Implications

Organic food, a healthy and sustainable version of food, benefits human and environmental health in various ways from the stage of production to its consumption. It helps the soil to retain its beneficial properties which are otherwise sacrificed with the usage of chemicals and pesticides. It also gives consumers a proper nutritional diet without any negative effects on their health as well as the environment and natural resources. The findings of the study propose that consumers show an affirmative inclination toward organic food products. This inclination needs to be further strengthened so that an awareness is created alongwith a positive word of mouth about the benefits of organic consumption. This would result in generating more demand which would go to the producers and the producer would be motivated to produce more organic food to cater market needs. Consumers do not see high prices as a barrier to purchasing organic food, therefore giving a window to the marketers to spend more on the manufacturing and promotion of these products.

The study contributes to the extant literature by incorporating the constructs of Willingness To Pay a Premium and Environmental Concern in the original TPB model to measure consumers' organic food purchase intention. The extended model provides insight into the strong concern for the environment and willingness to pay a higher price of respondents from Uttarakhand. The comprehensive model can be used to measure consumers' organic food purchase intention of the other hill states in the Himalayan region. Therefore, the model and findings of the study aid marketers and government policymakers to understand consumer organic food buying behaviour and frame policies accordingly to promote the consumption of organic food products.

7. Limitations and Future Research Scope

The study presents the opinions of the respondents from Uttarakhand. The findings therefore can be generalized only to the population of hill states of India. There is a need to look into the opinions of respondents from other parts of the nation as well, by incorporating more independent variables in the study. It would help to create an all-inclusive model to study organic food consumption. This would also provide an overview of the opinions of the Indian economy as a whole towards organic food consumption. These opinions would aid the policymakers at the central government level to frame a robust organic food policy that would take the Indian economy sustainably ahead at the global level.

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A Review on Impact of Covid-19 on Labor Migration: Ethical Lessons for Human Resource Management (HRM)

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Abstract

Purpose: The COVID-19 has caused severe issues concerning Human Resource Management (HRM, hereafter) and organizations worldwide. Organized sectors using the work from home culture equipped with various technological supports managed their organizations and protected their jobs. However, many people lost jobs in other professional units that could not cope with technical support, such as industrial and manufacturing units, which run through on-site human resources. Indeed, this has been an issue much relevant for the HRM strategists and policy-makers. However, this paper draws attention to a significant matter relating to HRM: the mass labour migration that occurred due to COVID-19 across the globe. India's two most populated states, Uttar Pradesh (UP) and Bihar, have faced severe social and economic problems because of large-scale migration. States across the county have been ordered to evacuate the people who are migrants from the other states for the proper health management to combat the pandemic. Central and state governments supported different packages. International organizations like UNDP also worked with states to help such people. However, there are tough ethical lessons to learn from this pandemic experience. This paper reviews the HRM policies and programs of the Government and Private sectors by addressing these issues. It offers some essential ethical guidelines for HRM in the view of health emergencies like COVID-19.

Keywords:COVID-19, pandemic, HRM, UNDP, ILO, Migrant workers.

1. Introduction

The sudden outbreak of COVID-19 has brought the world to a standstill, and its impact is very much visible on all the sectors of the economy, such as tourism, aviation, MSMEs, oil, and retail (Ranjan, 2020). With the increasing cases of corona-affected patients, the government has restricted all transportation services and closed all public and private sectors offices, manufacturings, and factories for an uncertain period; this led to workers and employees working in organized and unorganized sectors losing their jobs and struggle to earn their livelihood (ETGovernment, 2020).

The COVID-19 has major impacted the world economy after the great depression of the 1930s (Sahoo & Ashwani, 2020) and has affected our nation's organized and unorganized sectors. However, its harsh impacts can be seen heavily on the unorganized sector than the organized sector due to the difference in the sectors' nature. The organized sector consists of those sectors with the employment assurance that includes the jobs registered under the Government like Government institutions and schools, banks, politics, police jobs, and large enterprises registered under the government. On the other side, the unorganized sector consisting of the large part where the employment terms are neither fixed nor regular, such as medium, small, and micro-organizations, is not registered under the government, including the plantation labourers, hand looms workers, fisher, toddy tappers, weavers, etc. All the workers belonging to the organized or unorganized sectors count as important assets for the working class. Therefore, our review focuses on finding solutions to the workers' livelihood and sustainability and tries to touch those points through which some solution can be generated for the most hard-working class of society, labourers.

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2. Impact of COVID-19 on Organized and Unorganized Sector: A Critical Review

Migration is one of the most striking manifestations of globalization (Elie, 2015). According to an international labor organization, the pandemic has reduced the working hours by about 7% in quarter 2 of 2020, equivalent to losing 195 million full-time jobs. At the end of March, both the private and government sectors companies have asked their employees to leave the organization for an indefinite period without any pay or have reduced their salaries to about 85%. The organized sector saw major layoffs and jobs cut during pandemic and post-pandemic, affecting economic activities worldwide. As per a study conducted by recruitmentalerts.com, "68% of the employers have started their layoff or were planning to" (HT correspondent, 2020).

The impact of COVID-19 was harsher on the unorganized sector than the organized sector. The wage loss of informal workers was $81,122 crore as jobs under this sector critically involve the human presence; thus, completion of work with the help of the internet or digitally was not a solution for them, and formal workers wage loss was $5,326 crore as work of these sectors has been shifted to remote working with the help of digital solutions (Jadhav, 2021). According to a survey conducted by All India Manufacturers' Organization (AIMO), one-third of freelancing SMEs are about to close due to recent crises (Fana et al., 2020).

The vendors trading in "essential commodities" like fruits and vegetables were required to have vendor license and health permit; vendors trading in "semi-essential" must deal with the concerns related to hygiene, social distancing, and permits under FSSA Act and decline in demand. Vendors trading in "non-essential commodities" like plastics and clothes were mostly affected groups due to the lack of demand, supply, and closure of firms producing these commodities (Unni, 2020).

During COVID-19 pandemic, India's unorganised sector-which comprises contract labourers, small dealers, street vendors, and daily wage workers-faced hitherto unheard-of difficulties. Over 90% of India's workforce was employed in this sector, which experienced job losses, unstable income, and a lack of social security benefits (Jadhav, 2021).

It was a multifaceted crisis. Millions of migrant workers were forced to return to their home towns without sufficient assistance as a result of the lockdowns' first effect, which was mass unemployment. Second, because of dilack of financial support and healthcare.Second, weakened consumer demand and broken supply networks hurt unorganised enterprises. Third, poverty and vulnerability were made worse by the lack of access to healthcare and financial support (Fana et al., 2020).

Even though government programs like Atmanirbhar Bharat and PM Garib Kalyan Yojana offered short-term respite, they also revealed the unorganised sector's structural flaws. In order to preserve this industry from future economic shocks, the pandemic brought to light the pressing need for labour reforms, financial inclusion, and improved social protection (Unni, 2020).

3. Impact of COVID-19 on the Unorganised Sector and Labour Migration in India

India's unorganised economy was severely damaged by the COVID-19 pandemic, especially migrant labourers, who make up a sizable share of the informal workforce. Millions of people experienced severe distress as a result of the abrupt lockdowns, job losses, and absence of social security.

3.1. Significant wage reductions and job losses

Lockdowns caused factories, building sites, and small companies to close, which resulted in the unemployment of daily wage workers.

Many migrants experienced financial difficulties as a result of unpaid or delayed wages (Ranjan, 2020).

3.2. The Humanitarian Crisis and Reverse Migration

Due to a lack of transportation, millions of migrant workers walked hundreds of km back to their villages.

Basic food and medical care were difficult to come by in overcrowded aid camps and shelters (Sahoo & Ashwani, 2020).

3.3. Insufficient Social Security and Medical Care

Because they lacked formal contracts, insurance, and savings, unorganised workers were at risk.

Increased mortality and disease transmission were caused by limited access to healthcare (Thomas 2020).

3.4. Government Assistance Initiatives

Limited help was offered by programs like the One Nation One Ration Card and the PM Garib Kalyan Yojana.

Free ration distribution and MGNREGA assisted migrants in temporarily sustaining themselves (Walter, 2020).

4. National Labour Migration- National Agencies Role

According to the Centre for Monitoring Indian Economic (CMIE), about 122 million people lost their jobs in 2020. Three-quarters of these were wage labourers and minor dealers from unorganized sectors (Thomas 2020). Pandemic has exposed the vulnerability of urban casual workers, most of whom were migrants. They were among the first who faced the crucial implications of COVID-19 and lock down measures as economic activities have been called off, threatening the survival of many small units and these workers' employment. In most urban units, the workers have jobs linked with accommodation at the workplace, and the unemployment held due to crisis has forced the workers to leave shelters. The pandemic has forced them to return to their home town (Walter, 2020).

During the pandemic, labour migration in India came to global attention when suddenly ten thousand workers gathered in Delhi after the lock down announcement due to COVID-19 who wanted to cross into Uttar Pradesh, Bihar and other states. They assembled, being anxious to reach their villages due to which, despite being shut down of transportation facilities, they were trying to walk thousands of kilometres back to their towns. Many migrants were forced to return to their homes as they ran out of money/savings (Patnaik 2020). A mass departure of workers has raised the government's concern about the spread of the virus, due to which government must launch a scheme called "Migrant Workers Return Registration." This scheme counts the numbers of migrant workers stuck in other states and provides them 14 days of quarantine facilities with proper arrangements after reaching their villages or home town. The state government has launched its portals to accumulate workers' data and easily shift to their home towns. Indian railways also introduced Shramik special trains to help migrant workers, tourists, and students reach their homes (Khanna, 2020).

Table 1.
Role of different national agencies in dealing with the migration of workers during covid-19

Agencies	**Role**
International migrants supported by IOM	• Launched schemes for returning workers to their home towns include providing loans for training related to commercial activities.
Ministry of Health and Family Welfare	• Guidelines related to migrant workers' quarantine emphasized providing special care to vulnerable groups like children, pregnant women, and older people.
National Commission for Women	• Issued an advisory to act appropriately for the needs of women migrants during COVID -19.
Ministry of Home Affairs	• Helped to fulfil the workers' emotional, medical, food, and shelter-related requirements.
Bihar State Health Society	• Started a psychological well-being program called 'Ummeed,' for laborers in isolation centres.

Source: Irudaya Rajan et al., 2020

Table 1 discusses the role of different national agencies that helped the migrant laborers by launching schemes and programs during COVID-19. These are the agencies responsible for forming and implementing guidelines and recommendations for workers within the nation.

5. The Case of Bihar and UP.

The pandemic has resulted in the loss of jobs and incomes of workers in places far away from their home towns, resulting in the migrations of men, women, and children walking hundreds of kilometres back to their home towns (Datta, 2020). According to the National Sample Survey Office, about half of the migrants are from Uttar Pradesh and Bihar (Srivastava 2020). Imposition of lock down to maintain social distancing directly impacted the migrant workers. Approximately 10.5 million migrant workers having 22,567 shelters are living in different regions of India (Rawal et al., 2020). Most of these migrant workers belong to the poorer states of eastern India-Bihar, Uttar Pradesh, Jharkhand, Odisha, and West Bengal (Rao et al., 2020). According to a study conducted by International Institute for Population Sciences (IIPS) shows that the number of cases of COVID-19 has increased in states such as Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan as migrant workers have returned their homes or villages as the government was unable to trace them or contact them due to the unavailability data about them (Rai, 2020).

During COVID-19, states and union territories have identified and helped the migrant workers of Uttar Pradesh and Bihar by providing them food, shelter, and basic amenities. For example, the Delhi government, along with some organizations, arranged cooked food for about 800,000 migrant workers; Maharashtra government has supported 650,000 workers with food, medical facilities, and shelter; Karnataka government helped 440,000 migrant workers, Haryana government helped in setting up relief camps for 70,000 migrants, and Uttar Pradesh and Bihar government has allowed about 1 million migrant workers to return to their hometowns in different states (Maji et al., 2020). The paper review shows that the number of active cases of COVID-19 increased due to the daily arrival of migrant labor, and in states like UP, Bihar, and MP, the risk was even high.

6. Government policies and packages

The outbreak of COVID-19 resulting in the lock down to break the virus's spread caused panic among millions of migrant workers. It became difficult for them to survive and earn a livelihood without social protection, work, and income, forcing them to move to their native homes by walking as the transportation facilities were stopped due to lock down. This condition resulted in an increased risk of virus spread, and such a situation prompted the government to develop policies and packages to reduce transmission and help migrant workers (Sengupta & Jha, 2020). After the Finance Minister Nirmala Sitharaman of COVID-19 relief packages, the government has taken various steps for farmers and migrants during the lock down.

Similarly, the government has also announced to provide Rs. Four thousand crores from a total of Rs. Twenty thousand crores to a Credit Guarantee Fund Trust for MSMEs. The enterprises whose loan has been classified as Non-Performing Asset (NPA) were made eligible for banks' extra credit; this will motivate them to provide loans to the small enterprises already indebted to them (Sikarwar 2020).

Table 2.
Some government policies to benefit migrant laborers

Scheme names	Packages
Mahatma Gandhi National Rural Employment Guarantee Scheme	• Helped provide laborers returning to their native homes • Promised to provide 1 kg channel and 5 kg of foodgrain per family for two months • Benefited around eight crore migrants and has spent 3,500 crores under this scheme
One Nation One Ration Card scheme	• Centres have announced to enhance this scheme by promising to increase its validity by 83 percent till August 2020 and 100 percent till March 2021
Launch a scheme under the Pradhan Mantri Awas Yojana	• Under this scheme, the government - subsidized houses were converted into affordable rent houses for workers and their families.
Scheme to facilitate easy credit	• The government announced a credit facility with liquidity of up to Rs. Five thousand crores for the street vendors.
Indian finance minister	• Announced to provide US$22.6 billion for free food grains, liquefied petroleum gas (LPG) for cooking, cash transfers for three months, and insurance for frontline healthcare workers.

Table 2 discusses a few examples of government policies of India which has helped the migrant laborers of India during the pandemic.

7. Non-profit and private organizational support

The wake of COVID-19 impacts the most vulnerable community, such as street vendors, migrant workers, waste pickers, and artisans. To ensure that essential things reach them, many organizations, especially the non-profit-organizations, take initiatives and connect their efforts to work towards the cause. Besides this, several non-governmental organizations came forward to support the migrant workers during COVID-19 who helped them with food and shelter. Organizations have also established shelter homes for laborers who could not reach their native towns on time. They had started delivering food packets with the help of administration to those workers for their survival. These organizations have also actively spread awareness among the workers regarding COVID-19 (ANI, 2020).

Many private organizations came forward to provide on-site accommodation and daily food allowances to all their employed migrant workers. They also provided basic sanitation, wash areas, and isolation rooms if the need arose. The Directorate of Industrial Safety and Health instructed the Building and Other Construction Works (BOCW) employers to provide suitable medical facilities and prevent migrant laborers against the virus. Confederation of Real Estate Developers' Associations of India (CREDAI) has directed its members to provide food and essentials to workers. Similarly, according to the Chairman and CEO of Akshaya, they helped provide access to drinking waters, ambulances, and medical facilities to the laborers they employ (Adlakha, 2020).

Table 3. Some non-profit organizations' initiatives to help vulnerable groups during covid-19

Organizations	Support
Safa, Hyderabad -based not-for-profit organization	• Through its volunteers' network, they distributed prerequisites for workers and women migrants in many cities of India.
Parikrma Humanity Foundation, working extensively in the field of education	• During the pandemic, the foundation tried to fulfil the needs and requirements of their students and their families and raise funds for supplying food to them.
Zomato Feeding India	• Started the 'Feed the Daily Wager' to provide food support to families of daily wage earners across cities who lost their jobs during crisis. • They raised ₹50 crores.
Goonj	• They launched the program "Rahat." They initiated to provide essentials like rations and personal care products and delivered it to crores of workers migrating.

Source: Lounge

Table-3 discusses a few examples of well-established and known nonprofit organizations in India which have helped the migrant laborers during the pandemic.

8. Private sector HRM policies and measures: A critical Review

Estimated to be 3.5 million in 2018, migrant workers hail all over India. The attitude of HRM towards hiring and promotion of migrant workers can highly influence their career achievements. However, after migration, most of them are likely to face a decline in their career outcomes (Farashah & Blomquist, 2019).

HRM during pandemic faced problems to recognize the difference amongst the workers as each worker were facing different sought of situation, and the "one-size-fit-all" method was not productive enough to meet out the problems.Many white-collar workers were privileged to get work from home. However, the labor class of employees who had to keep the business operating had more chance of risking lives and facing unemployment challenges (Nelson, 2020).

Businesses to revive from losses have started cutting the salary of workers and terminating them from the jobs to reduce the expenditure. However, this reaction of HRM led to disrupting behavior of laborers towards them(Butterick & Charlwood, 2021). At the time of uncertainty, the employers try to hide their financial position to their workers, which reduces the transparency and sense of togetherness among employer and worker. However, HRM should generate a sense of honesty and teamwork (Shell, 2021).

"Demobilizing of labor is easy while remobilizing the labor is not easy." Therefore, bringing the labor back from their UP and Bihar is difficult; hence, HRM faced a major issue in operating activities which got shut due to pandemics. It also led to a delay in project completion as the labor was unable to resume. Therefore, many organizations take initiatives to bring laborers back to work by sending buses and other transport to them (Koundal & Joshi, 2020). Many employers provided essential care, support, service, and goods to migrant workers during the pandemic.

Table 4.
HRM policies and packages adopted by private sector organizations to help their workers during the crisis

Organization's name	HRM policies and packages
Wipro, Infosys, TCS and HCL Technologies	• Implemented long-term remote working guidelines • Implemented rotating shifts and flexible work schedules.
Reliance Industries, Mahindra Group and Tata Steel.	• paid full pay and guaranteed job security • Salary advances and hardship allowances were provided.
Infosys, Accenture, Wipro and HDFC Bank.	• Increased medical insurance coverage to include COVID-19 treatment. • Employees and their families received free COVID-19 immunisations
Uber	• Provided 14 days of compensation benefits to their workers affected by a coronavirus.

Source: Gurchiek & Gurchiek, 2020

Table-4 discusses HRM policies and packages given by the well-established giant companies having crores of turnover to help the migrant workers during the pandemic. These companies have differently sought help from their employees and workers to ensure that they feel supported and safe in crucial times.

9. Ethical Lessons and Guideline for HRM: Pandemic Challenges

The COVID-19 has intensified the situation and has made the workers worldwide adjust to the technological changes and adopt the essential skills required to use the technology. This situation made HRM help the employees navigate the changes and increase mental stress. The reduced boundaries creating dis-balance between work and private life were a major cause of employee stress, ultimately leading to burnout; for this, HRM was required to maintain clear and consistent communication with employees (Gigauri, 2020). The pandemic has also unfolded the requirement of heath management in organizations. HRM must develop critical solutions to employees' health, safety, and well-being. Many organizations also help their employees reduce stress through online classes to motivate them (Singh, 2020).

Despite all public health and emergency preparedness experts' efforts, HRM failed to make necessary preparations for the pandemic. Adequate preparation is an ethical obligation because it helps prevent the harm before they occur rather than respond to them when they occur. To mitigate the harm, HRM should be prepared with adequate surveillance, equipment, testing kits, other non-pharmaceutical interventions in the absence of a widely available vaccine and the existence of limited treatments available. Therefore, HRM is an ethical obligation to learn from previous harm and take precautionary measures to prevent predictable harm in the future.

The policies and measures adopted to reduce pandemic harm should be properly aligned with the clear and justified goals. During the pandemic, there has been a lack of clarity that the goal is to protect employees' health care, protect the disadvantaged workers, protect the vulnerable workers, or support economic loss. Thus, HRM should know which goal should be prioritized over others and justify adopting ethical and fair priorities for distributing all human and economic resources. It is essential that pandemics such as COVID-19 need a collaborative response. It will be ethical to serve people's interests rather than self-interest to be more effective.

Organizations without proper insights and news in the context of health emergencies will be unable to protect themselves from false and misleading information and panic among employees. Therefore, HRM needs to have evidence-based communication which can help employees from misinformation regarding pandemics, and preventive measures need to be adopted during pandemic and post-pandemic.

Table 5. IOM has also released some guidance for HRM and organizations for Protection of Migrant Workers During COVID-19

• Treat all migrant works equally, regardless of their gender and position. • Give priority to the health and safety of the workers, respect their human rights, and accomplish their basic needs. • Monitor that the workers follow the rules and regulations established by national authorities concerning health issues, and these should be properly communicated to them. • Identify the employee's needs and access the existing health and safety measures. • Focus on gender -sensitive issues and modify responses to vulnerable groups and migrants' needs and requirements.

Source: IOM, 2020

10. Conclusion

Pandemic has caused many challenges to people, the moral status of organizations, HRM, and employees. Companies must deal with the financial crisis due to the closure. On the other hand, the workers must handle the unwanted layoffs and reduce salaries. The pandemic has forced them to return to their hometown with no left choice. The impact of COVID-19 was harsher on the unorganized sector than the organized sector. Many migrants were forced to return to their homes as they ran out of money/savings. Their mass departure has raised the government's concern about the spread of the virus and workers' health and safety; due to this, they launched various schemes to mitigate the effects of coronavirus on migrant workers. Other than this, private and nonprofit organizations have also played a crucial role in helping migrant workers from the effects of COVID-19. Post pandemic companies welcome the workers and support them to come back and work on sites. COVID-19 has also created a challenging environment for the HRM as they must quickly adopt the changes occurring in the work and social environment; this led HRM to implement ethical measures and guidelines to support their employees and mitigate situations like COVID-19 in the future.

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Social Media Addiction: A retrospective examination through bibliometric analysis

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Abstract
Purpose: The present bibliometric study aims to review the extant literature though a retrospective lens on social media addiction (SMA) research by identifying the existing body of research, and the future research areas.
Design/methodology/approach:
An extensive bibliometric analysis was administered on 581 articles extracted from SCOPUS database. Data was procured from Scopus by performing a keyword search of "Social Media Addiction". Biblioshiny software and VOS Viewer was used to organise, analyse and present the data. This study identifies majorly the thematic clusters and collaborations through science mapping further, most prolific authors, authors, documents, and their impacts were also examined through performance evaluation technique.
Findings: The findings of the study are categorized in to two parts. The performance evaluation techniques identified the most relevant authors, cited documents, top sources and country collaborations while the science mapping technique reveals the thematic clusters based on co-occurrence of authors keywords, bibliographic coupling of sources and documents, co-citation network of the most cited author and the Sankey diagram.
Research limitations/implications: In the current study the fragmented literature on social media addiction has been organized and structured to provide an overview of extant literature through an exhaustive bibliometric analysis. Further, themes which are identified gives a clear view about the research agendas for future researchers and has huge social implications. As the study utilized only the Scopus database so future research studies may be conducted using other databases also.
Originality/value: This paper is unique in the sense that it is divergent from the previous studies which has only offered the empirical investigations in this area. The authors have tapped the methodological gap as this is the first attempt of its kind which has given valuable insights on the current state of research on social media addiction and guides for potential future agendas through bibliometric analysis.
Keywords: Social Media Addiction, Social Networking Sites, Bibliometric Analysis, Scopus, Biblioshiny-R studio, VOSViewer.

1. Introduction

The proliferation of technology and smartphones have resulted in the exponential expansion of social media usage. In the past decade, the usage of social media undoubtedly exploded limitlessly for maintaining friendships and seeking new acquaintances for common interests and needs fulfilment (Ellison et al., 2007). May it be workplace, home or any other social setting, the usage of social media is enormously growing. Famous social networking sites like Facebook, Twitter, Instagram, and YouTube has mainly captivated the individuals of different demographics, as the users shares photos, text, voice, and data. As reported by Statista (2022), the current users of social networking sites are 3.96 billion across the globe and by 2025 they are most likely to reach 4.41 billion. Social media if used appropriately may give positive results like building connections, obtaining work-related information and feedback. However, it has been criticised on various grounds too as the contemporary research studies have identified that social media usage leads to addictive behaviours also. It has also been observed that smartphone deprivation induce anxiety among young people,

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a phenomenon that is certainly equal to drug withdrawal (Smith, 2018). The researchers have claimed that excessive usage of social networking sites has led to various negative situations like escapism, mood change, psychological disorders, abandoned personal life, and masking the addictive behaviour (Young, 1998). Several researchers have argued that time spent on social networking may lead to addiction in people (Griffiths & Pontes, 2014; Sussman et al., 2011). Further, through new forms of social interactions the individuals may show dysfunctional and unhealthy behaviours (Soh et al., 2014). In few research studies it is opined that the individuals who are addicted to social networking sites depicts the same symptoms as reflected by the people who are under the influence of the substance use (Enrique, 2010).

Social media addiction (SMA) has also been referred as problematic social media use, compulsive social media in various research studies. Researchers have revealed that the overuse of social media leads to low performance at work, poor work-family balance, unhealthy social relationships, poor sleep, dissatisfaction from life, and other dysfunctional problems like jealousy, anxiety, depression, and stress (Xanidis & Brignell, 2016; Zivnuska et al., 2019; Müller et al., 2016; Wolniczak et al., 2013; Hawi & Samaha, 2016; Pantic, 2014). There is a growing concern over the addictiveness of social media and few researchers even stated that excessive usage of social media manifests the addictive symptoms like salience, mood modification, tolerance, withdrawal, conflict, and relapse (Andreassen et al., 2016). Dong & Potenza (2014) explained the state of SMA as when an individual has an uncontrollable motivation to excessively use social media which interferes the day-to-day tasks. Researchers have proclaimed that one of the important reasons for SMA is the fear of missing out (FOMO). The individuals who are not able to get in touch with their network may develop impulsive checking habits which results into addictive behaviour (Griffiths & Kuss, 2017). The topic of social media addiction has generated huge interest amongst researchers but what exactly comprises of social media addiction is still not unveiled and it's in a controversial state (Widyanto and Griffiths, 2006) and agreeable viewpoint over the terminologies used for social media addiction like disorder addiction, problematic social media usage has not yet attained (Lortie and Guitton, 2013). Therefore, there is a need to learn and research further to better understand the concept of social media addiction with a retrospective lens. Despite there being good number of empirical investigations by researchers in this field of study, there is a paucity of bibliometric research, especially related to social media addiction, Therefore, by conducting a bibliometric review using the Bibliometrix - R tool and VOSViewer, this paper attempt to consolidate and provide a structured outline of the existing research in the field of social media addiction by analysing the significant research studies done throughout the years, collaborations and thematic clusters which in addition helps to invigorate knowledge, enhance understanding, and in the end the study aims to aid researchers, policymakers and social media users.

The current research aims to attain the following research objectives:

1) To explore and analyse the available literature on social media addiction
2) To recognize influential sources, documents, relevant authors based on citations and collaborations.
3) To investigate the thematic evolution of social media addiction.

The study further deals with methodology; findings, and results; and lastly the conclusion, implications, future scope, and limitations.

2. Methodology

For reviewing the literature on social media addiction, bibliometric analysis approach was used. Through Bibliometric analysis, a detailed retrospection of the publication pattern on productive authors, keywords, documents, journals, affiliated countries, bibliographic coupling and thematic design have been carried out to get an insight into social media addiction domain. The "Scopus" database was utilized to retrieve the data on social media addition. The "Scopus" database was chosen because it is regarded as one of the most prominent databases dealing with worldwide academic research and offers a extensive coverage of peer-reviewed journals in multiple specializations including social sciences

(Valenzuela-Fernandez et al., 2019). Several other researchers have opined that the Scopus supersedes WoS in terms of the title coverage moreover, Scopus had much stronger captivation in domains like Social Sciences, Arts & Humanities (Pradhan & Zala, 2019). Another rationale for using Scopus database was the impact of publications, since nearly in all disciplines and sectors the impact was assessed more positively in Scopus than in WoS (Stahlschmidt & Stephen, 2020).

2.1 Search strategy

The search for this study was conducted on May 12th, 2022, using "Scopus" database. For determining the appropriate keywords, the previous research papers in this field were inspected. "Social media addiction" as keyword search term was identified and pursued for the further extraction of the data. The topic for search was "social media addiction" in the title, abstract and keywords to analyse the global recent research trends on social media addiction. The search string was set as: (TITLE-ABS-KEY {"social media addiction"}). A total of 2829 articles were retrieved using this search string the time-range for the general material retrieved was 2012-2022. The search records were further filtered by limiting other criteria like subject area, doc type (articles), keyword, and source type (Journals) and language (English). After applying the filters, a total of 581 articles were retrieved for performing the bibliometric analysis, the below mentioned exclusion inclusion criterion in Table 1 gives the due rationale of choosing 581 articles:

Date	Database	Search String
12 May 2022	Scopus	"Social Media Addiction" within title, Keywords and abstract
Result	2829 Papers	
Filter: (Exclusion and Inclusion criterion)	Time Range: 2012 -2022 Subject Area: Psychology, Social Sciences, Business, Management, Multidisciplinary Document Type: Articles Keywords: Social Media, Psychology, Social Media Addiction, Psychological Aspect, Social Network online, Mental Health, Social Networking Sites, FOMO, Facebook Addiction, Smartphones Source Type: Journal Language: English	Excluded: Editorials, Magazines, Masters and doctoral theses, Book Chapters, Conference proceedings, books, non - English journals, non -peer-reviewed journals.
Result	601 papers	
Filter	The articles were scrutinized on the basis of title, abstract and keywords. Further, only peer reviewed articles were considered which matched with the theme of current research study.	Excluded: Irrelevant articles on the basis of title, abstract and keywords were removed.
Final Result	581 papers	

Table 1.
Search Process (Exclusion Inclusion criterion)

2.2 Bibliometric Technique

In the present study Bibliometric analysis has been used as it unveils the emerging trends of the article and journal performance, further a detailed information on the conceptual and intellectual structure of the domain is also determined (Donthu et al., 2021a; Verma & Gustafsson, 2020). Bibliometric analysis is significant as it provides the researcher with a reliable, structured piece of quantitative metrics which further helps in gaining qualitative insights on the domain under study (Van Raan, 2004). The bibliometric analysis requires representation and mapping software to direct the quantitative analysis (Cobo et al., 2011). In the present study we used Biblioshiny and VOSViewer to construct, visualize and analyse bibliometric networks.

2.3 Bibliometric Map

Aria & Cuccurullo (2017) developed the Bibliometrix- R package tool and the current research has been administered using the same tool. The Bibliometrix - R package aids in exhaustive bibliometric analysis as it employs distinct tools for both bibliometric and scientometric quantitative research. The benefits of using Bibliometrix are two- fold, not only its data visualization features are strong but also the results derived are statistically complete and correct (Dervis, 2019). The bibliometric analysis has two broad categories i.e., performance analysis and science mapping. Former investigates the contribution of the research constituents in the given domain (Cobo et al., 2011) while the science mapping assesses the relationship between research constituents of the domain (Baker et al., 2021). In the present study performance analysis was done using Biblioshiny-R which included the overview of the research on social media addiction and other productivity metrics about most relevant authors, sources, impact analysis, growth trends. Further science mapping or relational analysis was done using VOSViewer (Visualization of Similarities) software. VOSViewer was specifically used due to its promising graphic interface which rapidly examines the bibliographic structures (Cobo et al., 2011). The co-occurrence analysis (Authors keywords), bibliographic coupling of sources and documents and co-citation analysis was carried out to unveil the relationships structures of social media addiction domain. The diagrammatic flow of research methodology is as follows:

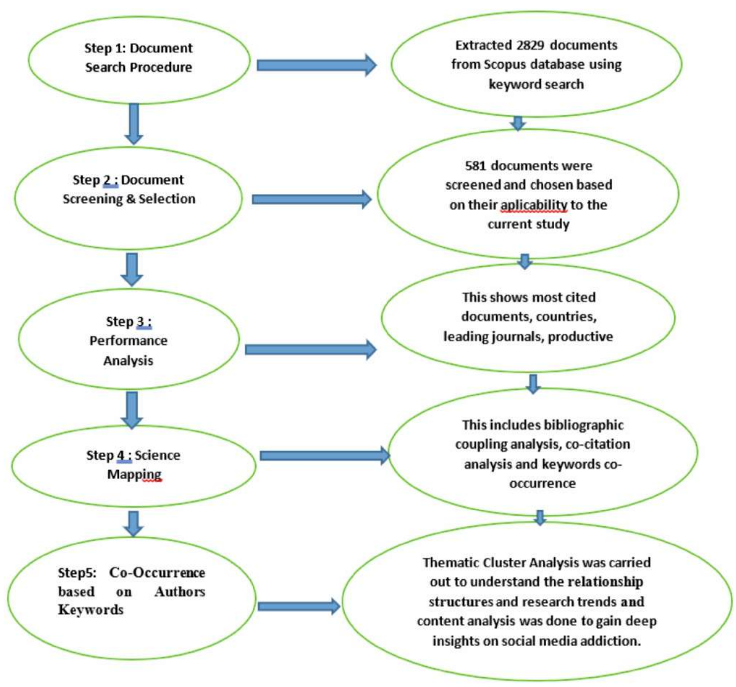

Figure 1.
Research Methodology Process

3. Findings

This section begins with a performance analysis which includes the descriptive statistics while the science mapping covers the thematic evolution of the social media addiction domain.

3.1 Performance Analysis

3.1.1. Main information about the data

Table-2 shows the main statistics of social media addiction based on Scopus database. The time span considered for the current study is 2012-2022. The 581 total number of documents were considered for the analysis. The average year from publication is 3.55, the average citation per document is 24.88 while the average citation per year per document is 4.514. There are 1939 authors, out of them 51 authors published single-authored documents and 1888 authors published multi-authored documents. The collaboration index is 3.58 and co-authors per document is 3.98.

MAIN INFORMATION ABOUT DATA	
Timespan	2012:2022
Sources (Journals)	241
Documents	581
Average years from publication	3.55
Average citations per document	24.88
Average citations per year per doc	4.514
References	29386
DOCUMENT TYPES	
article	581
DOCUMENT CONTENTS	
Keywords Plus (ID)	2224
Author's Keywords (DE)	1370
AUTHORS	
Authors	1939
Author A.earances	2312
Authors of single-authored documents	51
Authors of multi-authored documents	1888
AUTHORS COLLABORATION	
Single-authored documents	54
Documents per Author	0.3
Authors per Document	3.34
Co-Authors per Documents	3.98
Collaboration Index	3.58

Table 2.
Main Information about Social Media Addiction based on Scopus data

3.1.2 Annual Scientific Production

The scientific production of social media addiction papers between 2012 to 2022 demonstrates a progressive development by 5.4 percent annual growth rate, especially rising from 2017 onwards. Figure.2 depicts the publications on social media addiction, it is evident from the figure that this field is expanding and there exists exponential growth. The year 2021 marked the highest scientific production with 127 papers and declined to 44 papers in the year 2022 on the basis of the annual growth rate. Further, as the data was retrieved in the first half of the year so probably this may be the reason of its decline but the research on social media addiction may show an increasing trend towards the end of the year 2022 as that will show a comprehensive view of annual research. Table.2 depicts the main data information derived through bibliometric analysis. The information summary stated that about 1939 authors have contributed to the domain of social media addiction. The publications have been fetched for analysis through 241 sources.

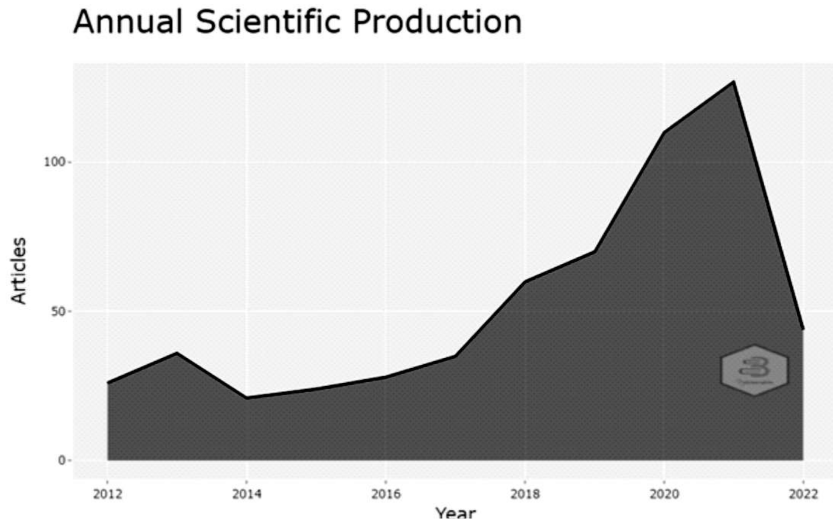

Figure 2.
Annual Scientific Production of Social Media Addiction

3.1.3 Authors' analysis: Most Relevant Authors, Top Authors' Production, Authors' Impact, Global cited Author's Document.

The authors' analysis was done using significant parameters like - most productive authors and authors having highest citation count in social media addiction, production of top authors over time. "Griffiths MD" emerged as the most relevant author as he has to his credit the highest publications i.e., thirty-one publications, followed by "Brailovskaia. J" and "Demetrovics. Z", "Casale. S", “Fioravanti. G", “Lin, C.Y”, "Margraf. J”, "Montag. C", and "Pakpour, A. H" with seven publications. "Kuss, D. J", "Liu. C" and "Turel. O" with six publications, "Chen, I. H", "Elhai, J. D", 'Marengo D", "Meshi. D", "Rozgonjuk. D', 'Settanni. M', 'Spada, M.M' with five Publications and 'Andreassen, C.S" having four publications respectively (see Figure. 3). Consequently, "Griffiths M.D" has in-depth knowledge as well as expertise in a diversified field. Table 3 lists the globally cited documents in the social media addiction field and "Andreassen, C. S" (492 Citations) has the highest cited global document to his credit i.e., the document authored by him in social media addiction domain has got the highest citations. Figure. 4 describes the top authors production over the years, "Griffiths, M.D" come-up with highest publication and citations. The different sizes of shades and circles depicts that the bigger the circle is, the more articles have been published by the author in that year. The darker the circle is, the more citations have been received per year. Figure 5 showed the author's impact by H index where "Griffiths M.D" is at the top position with nineteen citations followed by "Brailovskaia. J", "Lin, C.Y" and "Pakpour, A. H" with eight citations and "Demetrovics. Z", "Kuss, D.J", "Margraf. J", and "Turel. O" with six citations respectively.

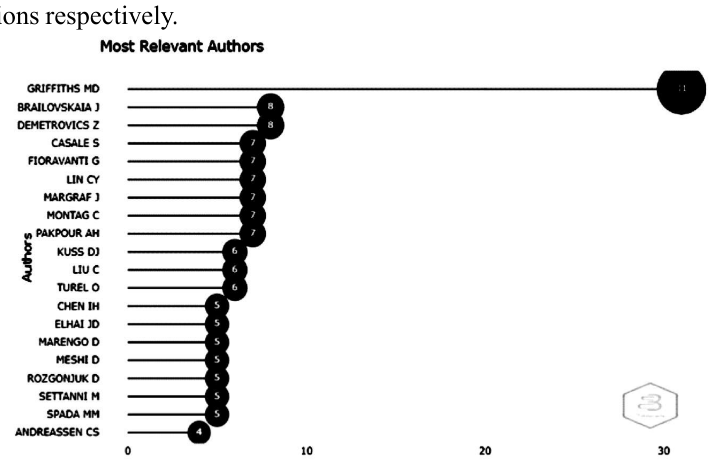

Figure 3.
Most Relevant Authors

1	ANDREASSEN CS, 2016, PSYCHOL ADDICT BEHAV	492	70.286	10.1593
2	ANDREASSEN CS, 2017, ADDICT BEHAV	363	60.500	5.5797
3	FOX J, 2015, COMPUT HUM BEHAV	337	42.125	6.8659
4	HENRY KL, 2012, J YOUTH ADOLESC	298	27.091	7.5150
5	BNYAI F, 2017, PLUS ONE	287	47.833	4.4115
6	BLACKWELL D, 2017, PERS INDIVID DIFFER	268	44.667	4.1195
7	KUSS DJ, 2013, COMPUT HUM BEHAV	266	26.600	4.3096
8	ROSEN LD, 2013, COMPUT HUM BEHAV	259	25.900	4.1962
9	VAN DEN EIJNDEN RJJM, 2016, COMPUT HUM BEHAV	245	35.000	5.0590
10	KOC M, 2013, CYBERPSYCHOL BEHAV SOC NETWORKING	229	22.900	3.7102
11	ZETTERQVIST M, 2013, J ABNORM CHILD PSYCHOL	221	22.100	3.5806
12	PANTIC I, 2014, CYBERPSYCHOL BEHAV SOC NETW	184	20.444	2.2309
13	SHENSA A, 2017, SOC SCI MED	156	26.000	2.3979
14	HAWI NS, 2017, SOC SCI COMPUT REV	131	21.833	2.0136
15	KARADA E, 2015, J BEHAV ADDICT	120	15.000	2.4448
16	WOLNICZAK I, 2013, PLOS ONE	113	11.300	1.8308
17	MONACIS L, 2017, J BEHAV ADDICT	109	18.167	1.6755
18	TUREL O, 2014, PSYCHOL REP	106	11.778	1.2852
19	STIEGER S, 2013, CYBERPSYCHOL	106	10.600	1.7174
20	ELHAI JD, 2020, J AFFECTIVE DISORD	104	34.667	8.1135

Table 3.
List of top 20 global cited Documents: Total citation, TC per year, and Normalized TC

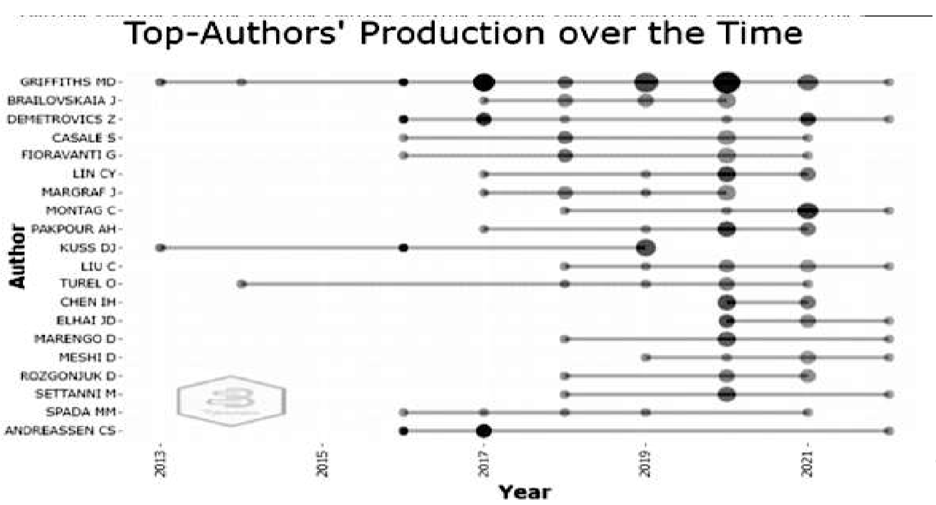

Figure 4.
Top-Authors' Production

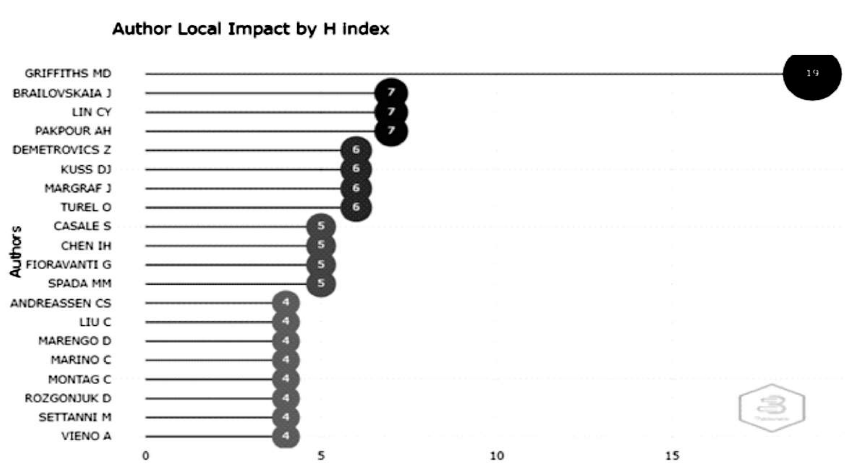

Figure 5.
Author local impact by H index

3.1.4 Source Analysis: Most Relevant Sources and Source Impact

The total publications on social media addiction from 2012 to 2022 in various sources were 581. Figure 6 indicates the top 20 journals which have published research on social media addiction domain. The "Journal of Behavioral Addictions" emerged as the most relevant source on the basis of publications (35 documents) followed by "Addictive Behaviors" (34 documents). Figure 7 shows that the "Journal of Behavioral Addiction" is having the impact with h-index of 23 followed by "Computer in Human Behaviour" and "Cyberpsychology, Behaviour, and Social Networking" h-index of 19, and "Addictive Behaviours" with 15 h-index respectively.

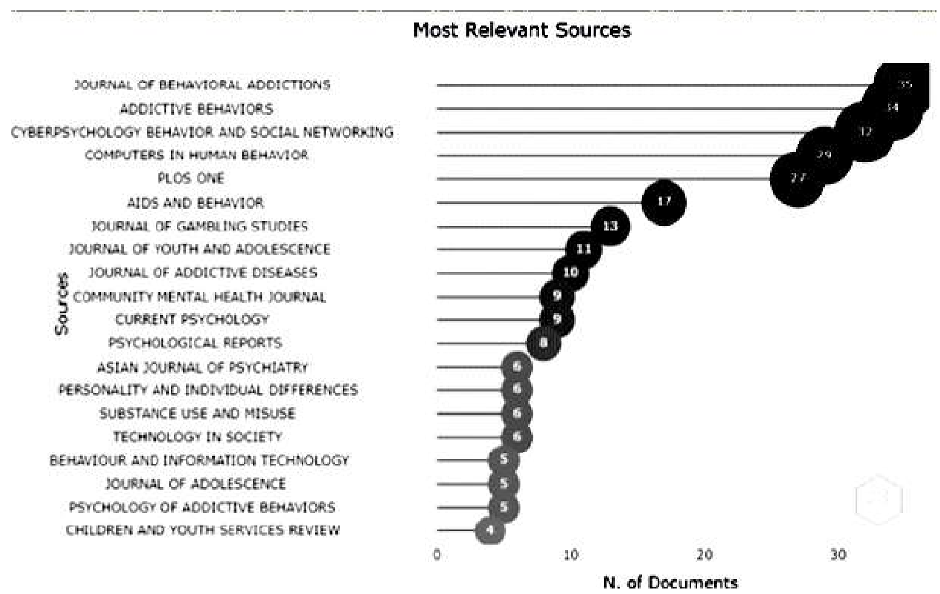

Figure 6.
Most relevant Sources on the basis of Publications

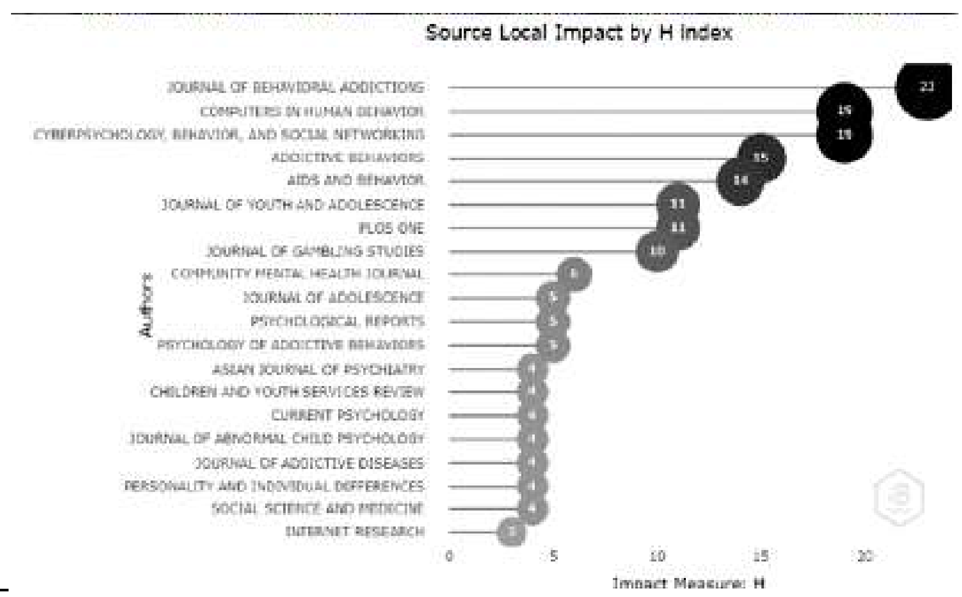

Figure 7.
Source local impact by H index

3.1.5 Country Scientific Production

Table 4 and Figure 8 showed the total number of countries whose research papers were analysed for the topic of social media addiction. "United States" (494) is at the first place. The second rank is of "China" (175) and the "United Kingdom" is at the third place respectively. Many researchers have studied this phenomenon and highlighted the features that directly impacts the social media addiction. Other countries which are ranked below them are Turkey (75), Italy (68), Australia (59), Germany (57), Canada (44), and India (43). It may be noted here that maximum number of studies have been done in the developed nations.

Region	Frequency of Publication
USA	494
CHINA	175
UK	118
TURKEY	75
ITALY	68
AUSTRALIA	59
GERMANY	57
CANADA	44
INDIA	43
NETHERLANDS	29
IRAN	27
SPAIN	24
HUNGARY	18
MALAYSIA	18
POLAND	18
SWEDEN	17
FRANCE	16
SOUTH KOREA	13

Table 4.
Top Country Scientific Production

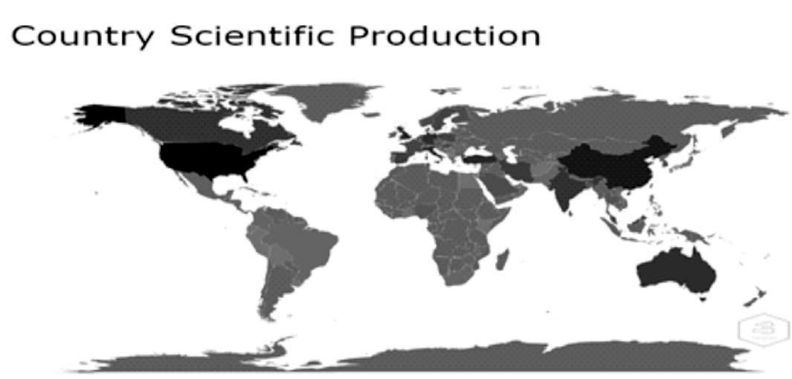

Figure 8.
Country Scientific Production

3.2 Science Mapping

3.2.1 Bibliographic Coupling Analysis

According to Kessler (1963) and Weinberg (1974), bibliographic coupling assumes that two publications sharing common references are also identical in their content. Researchers defines bibliographic coupling as when two papers cite the similar third work as it presumes that two documents referring to the same topic (Yuan et al., 2015). In the present study, Bibliographic coupling has been done for sources and documents using VOSViewer.

3.2.1.1 Bibliographic Coupling based on Sources

For analysing this, minimum number of sources were kept as five, out of 242 documents 18 meet the threshold making two clusters. Red and green colour represented two clusters respectively. The sources falling under red coloured cluster like "Journal of Behavioral Addiction", "Computers in Human Behaviour", "Cyberpsychology Behaviour and Social Networking" and in the green colored cluster "Addictive Behaviors" and "Current Psychology" emerged as the most productive and network sources on the basis of the number of documents published by each source in the respective field (See Figure. 9(a)). The table 5 shows the most productive sources based on the number of documents further the density visualization (Figure. 9(b)) shows the density map which shows the sources such as "Journal of Behavioral Addiction", "Computers in Human Behaviour", "Cyberpsychology Behaviour and Social Networking", "Aids and Behaviour" had strong connections with other sources and established strong clusters

Figure 9 (a)
Network Visualization

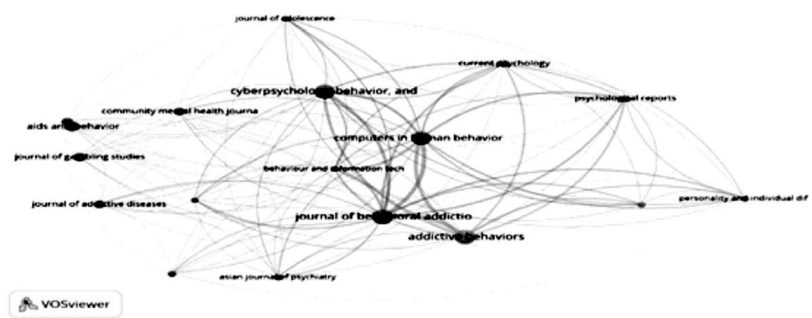

Figure 9 (b)
Density Visualization

Table 5.
Bibliographic Coupling on the basis of Sources

Sources	No. of Documents
Aids and Behavior	**17**
Asian Journal of Psychiatry	6
Behaviour and Information Technology	5
Community Mental Health Journal	9
Computers in Human Behavior	**29**
Cyberpsychology, Behavior, and Social Networking	**31**
Journal of Addictive Diseases	10
Journal of Adolescence	5
Journal of Behavioral Addictions	**35**
Journal of Gambling Studies	13
Journal of Youth and Adolescence	11
Psychology of Addictive Behaviors	5
Substance Use and Misuse	6
Addictive Behaviors	**34**
Current Psychology	9
Personality and Individual Differences	6
Psychological Reports	8
Technology in Society	6

3.2.1.2 Bibliographic Coupling On the basis of Documents

The fig. 10 (a) outlines the bibliographic coupling on the basis of authors who cite the same document based on citation count. For the purpose of analysis, the minimum number of citations were kept as 100 and the top 20 documents were selected which formed the four clusters. The coloured circles are representing distinct documents coupled with the same-coloured links, and the size of the circle illustrates the citation score of the published document. The bigger the circle, the higher citation count it has. In fig. 10 (a) "Andreassen (2016)" in red color is coupled to "bányai (2017)", "Blackwell.D (2017)" and "Andreassen (2017)," while "Fox (2015)"in blue color is linked to "Rosen (2013)," "Shensa (2017)" and "Kuss(2013)" in green coupled with "Koc (2013)", "Karada (2015)" and the last in yellow circle "Kirkaburun (2018)" coupled with "Elhai (2020)" and so on. The density map visualization indicates the most productive documents authored by different authors. The darker the yellow color the more number of times it has been cited as per the cluster. Fig. 10 (b) indicate that the documents authored by Andreassen c.s. (2016), Andreassen (2017), Fox (2015) followed by Bányai (2017) Blackwell (2017), Kuss d.j. (2013) has the highest density and the total citation count against these documents were 492, 363, 337, 287, 268, and 266 respectively. Andreassen (2016) in a large-scale cross-sectional study identified the correlation between social media addictive use, video games and psychiatric disorders and in 2017 Andreassen evaluated the relationship between addictive use of social media, narcissism, and self-esteem through a large national survey. Fox (2015) explored the dark side of social networking sites while Banyai (2017) unveiled the problematic social media uses. Blackwell (2017) found extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction on the other hand Kuss (2013) assessed the prevalence and risk factors of internet addiction amongst adolescents. An important aspect was observed during the bibliographic coupling of documents that the documents which has the highest citation count has majorly been co-authored by Griffith with few exceptions.

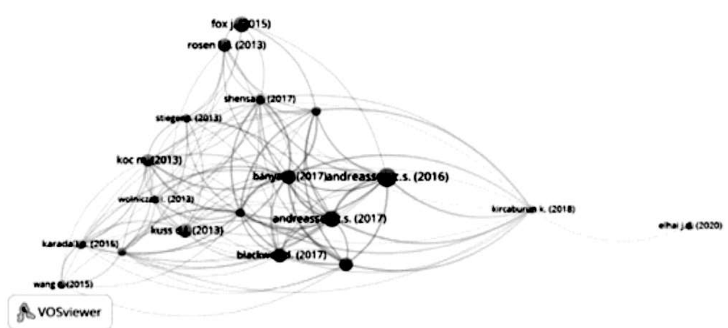

Figure 10 (a)
Network Visualization

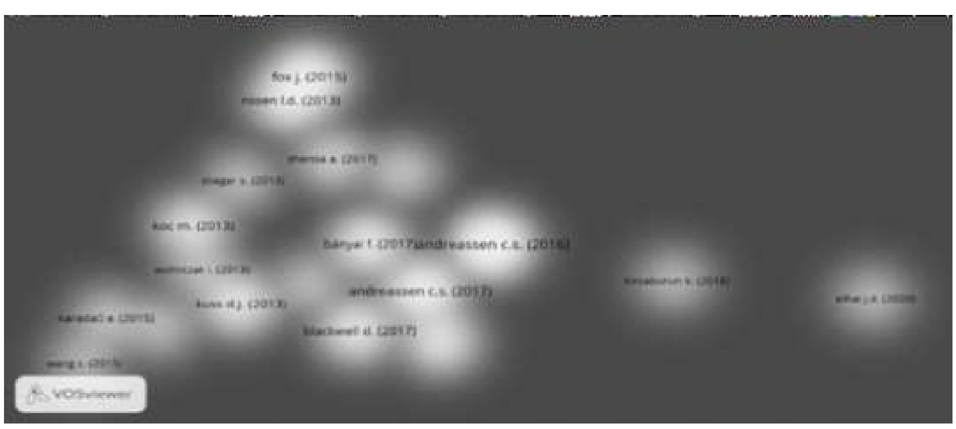

Figure 10 (b)
Density Visualization

3.2.2 Co-citation Authors

When two authors are cited in the same document a co-citation link is created. In the present study for analysing the most co-cited author, the minimum number of citations of an author were kept as 100 and finally twenty authors were selected those who had the highest citation count. Figure 11 shows co-citation analysis of cited authors. The authors and their co-linkages with other authors are represented by the coloured circles and lines. The size of the circle represents the citation count. "Griffiths,M.D" , has most citations to his credit (1,179 Citations) and forms a green cluster and majorly collaborated with "Kuss D.J"(424 citations), "Demetrovics, Z"(301 citations). The blue colored cluster is majorly dominated by "Andreassen, C.S" (446 Citations), "Pallesen" (375 citations), and "Spada, M.M" (145 citations). In the third red colored cluster "brand, m" (193 citations), "Turel, O." (186 citations) and "Young, K.S" (168 citations) has been highly co-cited. "Griffith,M.D", "Kuss", "Andreassen" and "Pallesen" are the authors who are highly co-cited across all the clusters. However "Griffiths,M.D" ranked the highest in co-authorship across all the clusters.

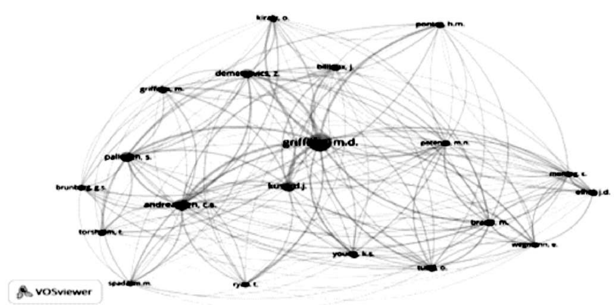

Figure 11.
Co-Citation of authors

3.2.3 Three-Field plot

Figure.12 showed that the three-field plot (Sankey diagram) of source, author and keyword. The three-field plot shows the keywords which were most frequently used by the authors and journals. The rectangle size represents the eminence of a particular aspect under analysis. In the current study "Griffiths, MD" has immensely published research on the keywords "social media addiction", "smartphone addiction", and "internet addiction" which have been mainly published in sources like "Journals of Behavioural Addictions", "Addictive Behaviours" and "Cyberpsychology, Behavior and Social Networking".

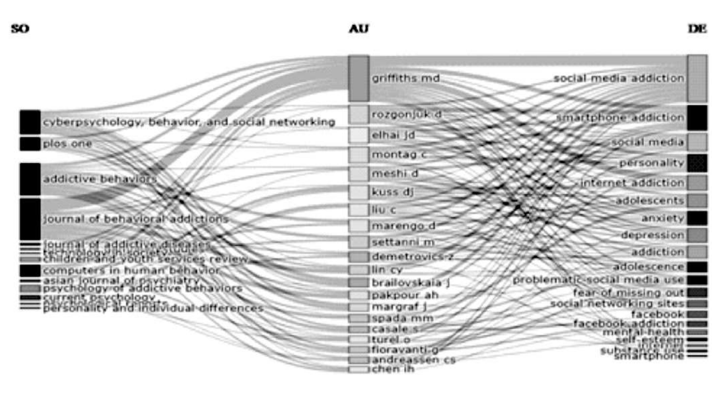

Figure 12.
Three-Field Plot (Sankey Diagram)

3.2.4 Co-Occurrence based on Authors Keywords

The keyword co-occurrence analysis assess the connection between the co-occurrence of keywords by studying the relation of their co-occurrence in a wide-ranging publications or documents. Keyword co-occurrence analysis relies on the statistics of the number of times a combination of keywords is cited in the similar document. The main emphasis of keyword co-occurrence analysis is to understand the relationship structures and to unveil the research trends of the domain under study. As per some scholars, research topic development may also be known through author keyword analysis (Wen & Huang, 2010). In the present study, for clear visualization the minimum number of occurrence of a keyword in the domain was kept as 10, out of which 1367 keywords were identified where 29 meet the threshold and after deleting the duplicates occurring from spelling differences (e.g., Addiction, addictions, smartphones, smartphone) 24 keywords were selected. The occurrences of keywords represents the size of the circle the larger a circle, the more a keyword is chosen in the selected documents. In the red coloured network, the keyword "social media addiction" while in blue coloured network "social media" and "addiction", in the green-coloured network "internet addiction" and lastly yellow coloured network "adolescents" had emerged as the strongest keywords depicting their co-occurrence in the 581 documents related to social media addiction domain (see Figure 13).

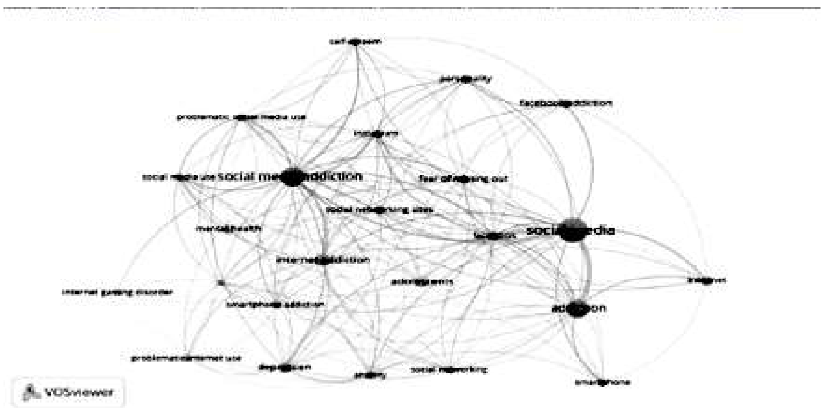

Figure 13.
Co-Occurrence based on Authors Keywords

The table 6 indicates the thematic representation of the clusters. Each cluster has been named as per the frequency of occurrence of the keyword. We found four keyword clusters and labelled them based on keywords in each cluster as: Social Media Platform: Usage and Addiction; Psychological Impact of Internet Addiction and Social Networking; Social Media, Smartphone and Addiction; Internet infused disorders in adolescents. A detailed discussion of all the themes are elaborated below.

Cluster 1 (Red) (Social media platforms: usage and addiction)	**Cluster 2 (Green) (Psychological impact of internet addiction and social networking)**	**Cluster 3 (Blue) (Social media, smartphone and addiction)**	**Cluster 4 (Yellow) (Internet infused disorders in adolescents)**
Facebook (20)	Anxiety (16)	**Addiction (86)**	**Adolescents (37)**
facebook addiction (19)	Depression (26)	Internet (25)	internet gaming disorder (14)
fear of missing out (19)	**internet addiction (40)**	Smartphone (16)	mental health (21)
Instagram (14)	problematic internet use (10)	**social media (166)**	
Personality (18)	problematic smartphone use (10)		
problematic social media use (17)	smartphone addiction (17)		
self-esteem (15)	social networking (13)		
social media addiction (102)	social networking sites (21)		
social media use (12)			

Table 6.
Thematic Cluster-Level Analysis of the Authors Keywords

Theme 1- Social Media Platforms: Usage and Addiction

Majorly the studies are related to social media addiction which exhibits a compulsion to use social media to unlimited extent (Griffiths, 2000 & Starcevic, 2013). Social media platforms such as; Facebook, Instagram have been studied a lot and has been highly studied in relation to social media addiction. Several studies have proved that Facebook, Instagram, and other social media channels induced uncontrollable need amongst the humans to log on to and use them (Andreassen & Pallesen, 2014). In addition, some studies have identified recognition needs, social needs and entertainment needs as the major contributors to Instagram addiction (Foroughi et al., 2021). Researchers have unveiled that even the fear of missing out (FOMO) a psychological condition may get worsen due to excessive use of social media at the expense of other activities (Przybylski et al., 2013). Few researchers have promulgated that Facebook usage has significant and positive correlation with social media addiction (Donnelly & Kuss, 2016). Several scholar have even empirically tested the personality traits in relation to social media addiction like extraversion has been found to be a positive correlate of social media addiction (Kuss and Griffiths 2011; Ho et al. 2017). Few scholars even distinguished between social media addiction and Facebook addiction and identified that the two differed in strengths of their relationships with gender and age and social media addiction had more significant impact as compared to Facebook addiction (Balcerowska et al., 2022).

Theme 2- Psychological Impact of Internet Addiction and Social Networking

The second theme comprises of the psychological impact of Internet addiction combined with social networking. "Compulsive computer use" also known as "Internet Addiction" had majorly contributed to personal distress, or social, professional, monetary, or legal consequences. The contemporary studies on Internet addiction have discussed the adverse impact of Internet addiction on the health of the humans like the depression rates increases in university students of Japan due to the severity of Internet addiction (Seki et al., 2019). A lot of studies have empirically tested that Instagram use predicted social media addiction, which further increased the symptoms of depression. Therefore, the more a user participates in Instagram, the more likely they are to experience social media addiction symptoms (Pantic et al, 2012; Andreassen & Pallesen, 2014). Erstwhile the empirical findings of a research study indicated that Social Networking Site addiction may pose serious mental health problem with unhealthy psychosocial functioning of the person and other near and dear one's of that person (Andreassen 2015).

Theme 3- Social Media, Smartphone and Addiction

In the third cluster research studies highlighted mainly the social media, smart phone, and addiction-related studies. Park and Lee (2012) explained smart phone addiction as the excessive use of smartphones in a way that is hard to stop and influences other areas of life in a gloomy way. Further, researchers proposed the factors which may result in to smart phone addiction such as: daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse, and tolerance (Kwon et al., (2013)). Several researchers have found that smart phone addiction is caused by social networking sites (SNS) as people remain addicted to smart phones due to the number of online social networks on online networking sites as these are more suitable for group discussions and SNSs are not restricted by geographic boundaries (Salehan and Negahban, 2013). On the contrary, few studies even claimed that the primary reason for social media addiction among adolescents was smartphone addiction (Kwon, et al., 2013; Mohammadi, et al., 2018; Park, 2005). Nevertheless, few researchers claimed that the patterns of smartphones addiction can originate from mobile phone applications such as calling, messaging, or online networking sites on smartphones (Kuss & Griffiths, 2017). The negative impact of the usage of smartphones is such that it may significantly hinder the day-to-day work like driving, classroom performance and job-related tasks (Gill et al., 2012). A lot of studies have proved that overuse of smartphones may be categorised under behavioral addictions (Billieux et al., , 2015; Kuss & Griffiths, 2017; Salehan & Negahban, 2013).

Theme 4- Internet Infused Disorders in adolescents

The fourth cluster discusses the detrimental impact of internet addiction on the adolescents' mental health. Internet addiction may also sometimes describe as "Internet Gaming Disorder" and "Internet Gaming addiction". A broad range of research studies have discussed about the internet infused disorder in adolescents. Researchers promulgated that population comprised of adolescents may develop internet addiction due to changeability in their mind control (Leung, 2006 & Casey et al., 2005) and boundary setting skills (Liu & Potenza, 2007). Researchers have proved that internet addiction leads to physical and mental disorders in adolescents. Internet addiction has been reported to be associated with depression and insomnia, suicidal tendencies, social phobia, aggressiveness, hostility, and drug use (Gong et al., 2009; Cheung & Wong, 2011; Fu et al., 2010; Ko et al., 2008; Ko et al., 2009). Moreover, many researchers even found online gaming as a significant predictor of internet addiction (Kuss et al., 2013). The findings of few other research studies also provided some empirical shreds of the probable linkages between internet addiction and mental health of adolescents (Lam, 2014; 2015). Adolescence, a critical period for development, is characterized by profound changes in social, emotional, and cognitive domains. As a result of the growth of digital technology and social media platforms, adolescents interact more and sometimes excessively online. Adolescents are increasingly getting addicted to social media addiction, a subtype of behavioural addiction, because it affect their relationships with others, academic performance, and psychological health (Andreasen et al., 2012). Compulsive and excessive social contact, particularly occurring on digital platforms such as social media, messaging apps, and online gaming communities, is known as social addiction psychoactive substances, relies on behavioural reinforcement mechanisms that lead to a reliance on digital interaction and social approval. Adolescents are more likely to engage in addictive behaviors amidst their social ecosystem as they are easily influenced by their peers (Kuss & Griffiths, 2015). It is crucial to investigate intervention options that encourage teenagers to adopt healthy digital habits, given the possible hazards linked to social addiction. To reduce excessive social media, its usage and promotion of healthy social relationships, behavioural treatments, digital literacy programs, and parental advice have all been proposed as successful strategies (van den Eijnden et al., 2016).

4. Discussion

The present study aims to build the knowledge base of the domain social media addiction and the other connected field of studies through retrospective view. For attaining the objectives, a bibliometric analysis was conducted using VOSViewer and Bibliometrix package of R. The Boolean logic for the current research was used as "Social Media Addiction" The analysis was done using two important techniques performance analysis and science mapping. For performance analysis was done using metrics such as annual scientific production, most relevant authors, top authors production, author and source impact, most local cited documents, and Country scientific productions. The relational analysis or science mapping was conducted using Three-field plot analysis of the Sankey diagram, bibliographic coupling of sources and documents, co-citation analysis of cited authors and keyword co-occurrence analysis. 581 documents were retrieved from the Scopus database to conduct the methods.

The scientific production of social media addiction publication between 2012 to 2022 depicted an accelerated growth of 5.4 percent annually especially hiking from 2017 onwards. "Griffith M.D" emerged as the most relevant author both in terms of citations and publications. Further the most relevant source is the "Journal of behavioral addiction" The country scientific production indicated that "United States" stood at the first position with 494 publications on social media followed by China with 175 publications however surprisingly the contribution of India remained very less with only 43 publications in social media addiction domain despite having 518 million social media users which is an extremely high figure when compared with USA (Statista, 2020). In USA the total social media users accounts for 223 million (Statista, 2020). Few researchers confirm the finding of the present study as they conducted study on IT infrastructure and research in south Asian countries which accounts for 17% of the world population claimed that South Asian region lags behind the developed nations on almost all scientometric indicators related to IT research domain (Singhal et al., 2014). They further confirmed that along with the productivity level (citation impact), the total IT research output of the region is low. Since social media comes under IT domain only so this phenomenon calls for more studies on social media addiction in Indian context and other developing nations.

The science mapping indicates the relational structures of the social media addiction field. The co-occurrence analysis of authors keywords indicates the occurrence of the keywords in the documents. "Social media addiction", "Internet addiction", "Addiction" "Social Media" "Adolescents" "Facebook addiction", "Depression" "Mental health" emerged as the most significant keywords in social media addiction domain. Four clusters were derived from the authors keywords referred as "Social media platforms: usage and addiction", "Psychological impact of Internet Addiction and social networking", "Social networking social media, smartphone and addiction", and "Internet infused disorders in adolescents". To derive the thematic structure, the co-occurrence analysis was specifically used as Donthu et al., (2020) opined that keywords that frequently appear together have a thematic relationship with each another further, the keyword co-occurrence analysis aids in predicting future research in the domain under study.

The bibliographic coupling of the sources revealed that "Journal of Behavioral Addiction", "Computers in Human Behaviour", "Cyberpsychology Behaviour and Social Networking" and "Addictive Behaviors" and "Current Psychology" appeared as the most productive and networked sources on the basis of the published documents. The bibliographic coupling of the documents reported that the documents authored by Andreassen c.s. (2016), Andreassen (2017), Fox (2015) followed by Bányai (2017), Blackwell. (2017), Kuss d.j. (2013) has the highest coupling with others with a good number of citation count. In these documents all the authors majorly argued over the dark side of social media, addictive use of social media and video games and psychiatric problems, problematic social media uses. Several studies focused on predictors of social media use and addiction and risk factors of internet addiction amongst adolescents. These findings support the analysis derived through co-occurrence analysis as the authors' keywords too depicted the same line of research. The co-citation analysis of cited authors indicates that "Griffith,M.D", "Kuss", "Andreassen" and "Pallesen" are the authors who have been highly co-cited across all the clusters. The findings of co-citation analysis confirms the findings of the bibliographic coupling of documents as "Griffiths,M.D" who ranked the highest in co-authorship across all the clusters was a co-author in all those documents which has highest citation count and he too emerged as the most productive author in the field of social media addiction (see Figure 2). The last component of science mapping, the Sankey diagram or the three-field plot analysis depicted that "social media addiction" found to be the most dominant keywords and the research published in this area research is primarily published in "Journal of Bahavioral Addiction" where again "Griffith MD" has taken the highest lead.

5. Conclusion, implications, Limitations, and future scope

Social media is a growing phenomenon and will continue to flourish in future also, however the addictive usage of social media is quite alarming and harmful. The empirical findings of research papers which have been included in the current study have proved this. The behavioural scientists have treated this as behavioural addiction which may hinder the personal and professional growth of the social media user. The findings intend to guide and persuade researchers toward the field of social media addiction. The present study build foundation for future research development and research collaboration across the countries and authors. Since it has been identified in the research study that developing nations including India has not given any significant contribution on the domain under study despite having a huge number of social media users, so this study enlightens and pave a way for the scholars to do more contribution in the field of social media addiction. Based on the co-occurrence of the authors keywords analysis and clusters generated the authors were able to find themes which were closely linked to social media addiction. With the rise in internet infrastructure, social media platforms, the users of social media are increasingly rising therefore, the negative impacts must be reduced for the effective functioning of human beings in all arenas like personal, social, and professional respectively. The extant literature informs the govt, policy makers, and researchers about the impacts for SMA, through which they may develop effective strategies to prevent the people from the addictive use of social media. Another theme generated in the study talks about the internet infused disorders amongst the adolescents which is again an area of major concern. The documents published on this aspect gives an eye-opening finding and the relevant suggestions to deal with the negative impacts of internet use. This research study gives a wake-up call to the policymakers and other stakeholders who should emphasize on curbing the detrimental impacts of social media addiction and internet addiction so that it results in the improvement of the physical, psychological, and social well-being of social media users across the globe. Mentally and physically healthy people of any country can improve the society so with such intention this paper may prove to be beneficial for most of the stakeholders. Apart from the social media addiction, the research paper is based on the bibliometrics analysis so the scholar and researchers who are naïve to this technique may gain insights from this study. The present study is not free from limitations. Firstly, the study has been limited to research articles published in journals so future researchers may extract information from books, conference papers etc. Further other databases like web of science, google scholar, dimensions may be used for having a diverse view on the domain social media addiction. Secondly, the current study employed software like Biblioshiny and VOSViewer. Therefore, the future scholars may use Gephi for modularity. Additionally, the current study primarily focused on analyzing publication growth rather than the evolution of thematic clusters so, future researchers may target this aspect for social media addiction.

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Sheconomics in Action: An Analysis of Investment Decisions in Indian Startups

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Abstract

Purpose: The main aim of this study is to examine how gender influences investment decisions in the Indian startup ecosystem, by focusing on investors and entrepreneur gender on investmentdecisions.

Methodology: Data have been collected from an Indian TV reality show (s.tank), Using Chi-square, Binomial Logistic Regression, and Mann-Whitney U test for hypothesis testing.

Findings: This paper explores 3 major findings, a huge gap of 46% in women-led startups and men-led startups, but there is no significant sign of homophily, i.e. no association found between investor's gender and entrepreneur's gender. However, a significant difference was observed in the valuation of startups, favouring male-led startups.

Research Limitations: One of the key limitations is data collected from a TV show, which may involve unique procedures and potential discrepancies compared to the Indian startup ecosystem. Second, solely on gender dynamics, excluding other potential influencing factors.

Practical Implications:Government institutions, Policymakers and private investors should continue supporting women entrepreneurs. Investors and entrepreneurs should be aware ofthese biases.

Originality: To the best of the researcher's knowledge, this is the first attempt to examine investment decisions of the Indian startup ecosystem, using data from a TV show. It also challenges prevailing notions of gender bias in investment decisions and provides empirical insights into gender dynamics.

Keywords: Sheconomics, Gender dynamics, Investment decisions, Gender bias, homophily

1. Introduction

"It is impossible to think about the welfare of the world unless the condition of women is improved. It is impossible for a bird to fly on only one wing." - Swami Vivekananda

Sheconomics or women in economics generally considered a key factorthat ledto the rise of female entrepreneurs in India and represents a significant participation in the growth ofthe Indian economy(Mazhar, 2023; Singh & Dubey, 2022). Sheconomics, defined as female economics (She+Economics), includes women in employment, finance, and consumer trends.It mainly focuses on the improvements in women's socioeconomic status and also increases participation in the workforce(Liu, 2022). Further, Italso demonstrates how inclusive policies can improve the economic status of rural as well as urban areas through women's initiatives(Liu, 2022; Mallikarjuna, 2022; Mazhar, 2023).

Despite the various achievements accomplished by Sheconomics, a substantial financial deficit remains for women entrepreneurs in India(Fegade et al., 2023). Statistics reflect the actual position of Indian female entrepreneurs. According to Jaitly &Thangallapally(2022) report, women just hold about 20% of MSMEs, or 12.6 million out of 63 million. Further, another report published by INC42, shows that total investments in Indian startups were more than$10 billion in 2023, while businesses led by female entrepreneurs raised only about $480 million accounting for less than 5% of total funding(Indian Tech Startup Funding Report 2023, 2023). The disparity in finances significantly limits the full potential of Sheconomics and the economic benefits of women-led firms(Fegade et al., 2023; Mazhar, 2023).

Gender discrepanciesoccur in almost all fields from medicine to the labour market (Aleks et al., 2021; Totadri et al., 2022). Entrepreneurship is also not escaped by these gender discrepancies(Lizunova&Mindruta, 2022), with women entrepreneurs experiencing numerous

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problems in financing their ventures, low rates for venture creation, and difficulties in scaling up their businesses. Not only in India, but female entrepreneurs in the rest of the world also oftenstruggle to acquire capital for their venture or business ideas(Bosma & Kelley, 2018). While increased recognition of women and women-led enterprises in promoting economic growth, women entrepreneurscontinue to face a considerable number of problems in financing their ventures(Liu, 2022; Lizunova&Mindruta, 2022; Mallikarjuna, 2022; Mazhar, 2023).

Various studies have shown the presence of gender bias in investment decisions throughout the world, but the situation in India may be changing. However, more research into the gender dynamics of investment decisions in India is required.

The Government of India (G.o.I) have taken several initiatives and set up different programs to help and empower women entrepreneurs. Dena Shakti Scheme, Bharatiya Mahila Bank Business Loan, Stand-Up India, and many more schemes aim to give financial support to women-owned businesses. While these schemes from the government of India have helped a lot of women entrepreneurs, still there are some criteria limitations for these schemes. This underlines the significance of further research into the investment patterns of private investors.

By considering these factors, and the research gap highlighted by Hohl et al. (2021), our research aims to explore the current dynamics of investment decisions in the Indian startup eco-space, as well as to investigate the influence of gender bias on Investment decisions. By analysing the data from anIndian entrepreneur TV reality show (S. Tank, India) in which entrepreneurs pitch their ventures to the investors present out there, we want to investigate whether "Sheconomics" translates into a practical reality for Indian women entrepreneurs or not. Through this study, we aim to provide empirical insights focusing on the following research question:

- Does Gender Homophily Occur in the Indian Startup Ecosystem?
- Does Gender Bias Occur in Investment Decisions in the Indian Startup Ecosystem?

2. Literature Rreview and Hypothesis Development

Entrepreneurial financeis considered a very important decision for entrepreneurs as well as forinvestors, that's why various factors need to be considered before any investment decision, such as the type of investor(s) or type of entrepreneur(s), policies for funding, the interest of both the parties, future directions, etc. For an entrepreneur, investors can play a significant role beyond providing capital, guidance for future strategy, networking, facilitating human resources and also helping in the resolution of internal conflicts (Lafarre&Schoonbrood, 2023). Further Hervé et al. (2019), examined the determinants of investment behaviour and explained gender differences in risk aversion and the Influence of sociality. Both investment and financing decisions are interdependent considering various factors including gender before investing.

Gender homophily& discrimination both greatly impact entrepreneurial finance investment decisions. According to Poczter&Shapsis (2018), startups led by males will receive better treatment, receive more funds, and have a higher valuation than their female counterparts. Further (Ewens et al., 2018), also support this bias in their study that male investors show less interest in the ventures led by female entrepreneurs, indicating that male investors have a strong preference towards male-led startups. On the other hand, Oranburg& Geiger (2019) also found that female investors are more likely to prefer female-led startups.

Snellman & Solal, (2023), Explained in their study that female entrepreneurs who are backed by female investors may face obstacles in securing further funding because of the perceptions influenced by gender homophily, regardless of the entrepreneur's competence (Qin et al., 2022). Suggesting that gender-related support may exist, it may unintentionally be promoting biased views which are restricting women entrepreneurs from further funding. But Balachandra (2020), found in their study that gender disparity in entrepreneurial finance is not solely due to the inherent biases against women, rather it is influenced by feminine-stereotyped behaviours exhibited by entrepreneurs, regardless of gender.

Collectively the literature reviewed in this study provides strong evidence that gender biases and gender homophily influence entrepreneurial finance investment decisions, with men-led startups receiving more favour than their counterpart from male investors, while female-led startups benefited from female investors. Therefore, we hypothesise

Hypothesis 1:There is a statistically significant association between the gender of the investor and the gender of the entrepreneur.

Hypothesis 2:There is a statistically significant difference in investment decisions based on the gender of the entrepreneur.

Hypothesis 3: There is a statistically significant difference in the investment valuation offered to male-led startups compared to female-led.

Hypothesis 1 addresses the concept of gender homophily and hypotheses2& 3focus on the broader aspects and explores a potential overall gender bias in investment decisions and investment valuation.

3. Research Methodology

To bridgethis gap in the Indian environment, using hypothesis testing non-experimental design, by employing Chi-square, Binomial Logistic Regression, and Mann-Whitney U test, we have collected data and examined the investment decision gap in the Entrepreneurial Finance TV reality show S.tank, India in which Indian entrepreneurs pitch their ventures to a panel of investors. Every entrepreneur systematically presents their ventures, and this show offers a great platform for entrepreneurs as well as researchers to use the data for addressing various research questions. For instance: (Hohl et al., 2021), conducted gender diversity effects in the US, ethnicity-based discrimination (Smith &Viceisza, 2018),and products of show and branding (Baumann & Rohn, 2016).

By analysing the investment decisions made by the investor's panel on the show, we want to acquire insights into how investor and entrepreneur gender interact and may affect financing results.

The sample contains 136 aired episodes from the 3 seasons (until March 15, 2024) which comprises a total of 6 regular investors, out of which 2 were female (33%), encompassing 410 venture investment decisions (Table. 1). Therefore, for hypothesis testing, we gathered data on investor gender, entrepreneur gender, investment decision, and valuation and appliedstatistical analysis using Jamovi software.

4. Results

Descriptive analysis

	Only male	Male led	Equal	Female-led	Only female
Total firm	221	32	90	9	58
Firm Wegithage	54%	8%	22%	2%	14%
Investmentsoffered to the firm	153	22	68	7	44
Total Valuation Asked by all entrepreneurs (value in Lakh)	720050.2	133730.7	254663.143	9750	102400
Total Valuation Provided by all investors (value in Lakh)	348218.4	56411	97598.0258	2846.153	63252.6367
Funded bymale investors	191 (56%)	34 (10%)	68 (20%)	4 (1%)	45 (13%)
Funded by female investors	81 (52%)	14 (9%)	37 (24%)	3 (2%)	19 (12%)

Source: Authors creation.

Table 1.
sample characteristics

From the descriptive analysis (Table 1)we can easily sense the glimpse of previous literature highlights potential gender bias in entrepreneurial finance. Only 16% of the firms in our sample are led by women, with 14% solely led by women and 2% having a mixed-gender composition with women-led founders. This statistic is particularly different from Jaitly et al. (2022), who have reported 20% of women entrepreneurs in the MSME sector ofthe Indian entrepreneurial population. A large proportion of firms are male-led accounting for 62% (54% led by only males and 8 % male-led founders) receiving more investment decisions, more funding, and more valuation from both male and female investors. Male investors account for 66% of all investment decisions in male-led entrepreneur firms, while female investors make up 61%. However, female-led firms just receive 14% of financing from both male and female investors, despite 16% participation in the show. These differences in funding and participation presented in the analysis reveal potential gender biases in investment decisions and also align with the findings of previous researchers who have observed preferential treatment toward male-led startups and less interest by male investors in female-led firms.

However, it's important to note that descriptive statistics only provide a summary of data that can't lead to conclusions, to draw broader inferences we further investigate using inferential statistics (Biernat &Piatkowska, 2015; Das et al., 2023).

5. Hypothesis testing

Table 1.
x^2 Tests

	Value	Df	P
χ^2	0.188	1	0.665
N	390		

Source: Author Creation

For analysing the association between investor gender and entrepreneur gender we employed the Chi-square test statistic (χ^2). For this analysis, we have considered all those firms which are led by either male or female, firms with equal participation have been dropped as we want to focus solely on investor preference for entrepreneur gender, and every investment decision by individual investors is considered as one. Table 2 presents the result for hypothesis 1, with a probabilityvalue of 0.665. having a P-value higher than 0.05 indicates that we fail to reject the null hypothesis. It states that there is no statistically significant association between the gender of the investor and the gender of the entrepreneur. Therefore, findings suggest that investor gender alone is not the significant reason for the determination of investment decisions in the context of the Indian startup ecosystem focusing on the s.tank data set.

χ

Table 2.
Binomial Logistic Regression

Predictor	Estimate	SE	Z	P
Intercept	-0.3759	0.128	-2.938	0.003
Ent gen: Women-led – Men led	-0.0796	0.281	-0.283	0.777

Source: Authors own creation.

Previous literature has suggested bias against female-led firms but results from Table 3 do not support hypothesis 2 which examines the relationship between entrepreneur gender (women-led vs. men-led) and funding status (Funded or Not funded). The result of binomial logistic regression analysis finds a p-value (0.777), which is higher than the threshold limit of 0.05. This high p-value indicates that the effect of entrepreneur gender on funding status is not statistically significant. In simple words, based on this analysis of S. Tank India data, there's no evidence to conclude that female-led startups are less likely to be funded compared to male-led startups. The findings of this study are contradictory to previous literature.

Table 4.
S- Independent amples T-Test

		Statistic	P
Valu ation	Mann-Whitney U	2353	0.021

Note. H_a $\mu_{\text{Men led}} \neq \mu_{\text{Women led}}$ Source: Authors own creation

For analysing the association between investor gender and entrepreneur gender we employed the Independent Samples T-Test (Mann-Whitney U test). Following the same methodology, the result from Table 4 supports hypothesis 3 and reveals a statistically significant difference (p-value = 0.021) in the investment valuation based on the entrepreneur's gender in our sample. Further, we tried to find the difference in both the groups (men-led vs women-led) then it shows a median difference of 500 and a mean difference of 1085 Lakhs. This finding aligns with the findings of some past research, suggesting a potential bias in the investment valuation, favouring man-led startups.

Discussion

Our findings are based on primarily 3 contributions to the existing literature.

- Firstly, Our study contributes to the existing literature on gender bias in entrepreneurial literature. Through the literature, we have seen that gender bias is one of the most prominent biases in the whole world including the Indian startup ecosystem, and the findings of our study provide some minute details on it. Contrary to various previous studies, our results show no statistically significant association between the gender of investors and entrepreneur gender, challenging the notion of gender bias and gender homophily in the Indian startup ecosystem. This indicates that Indian females are getting opportunities and have positive outcomes in terms of gender dynamics (Gupta &Etzkowitz, 2021).
- Secondly, despite numerous initiatives taken by the government of India and increasing opportunities for Entrepreneurial financing by private investors, Female participation in Indian entrepreneurship has not shown much growth (Amlathe& Mehrotra, 2017). This indicates a persistent challenge that needs to be addressed for gender equality in the entrepreneurial ecosystem.
- The third and last aspect of our study is that although no significant gender homophily or gender bias was found in investment decisions, it does point out the significant difference in the valuations of these investment decisions. We found a statistically significant difference in valuation between male-led startups and female-led startups, with male-led firms having a significantly higher, despite having no difference between investment decisions count. The findings are consistent with previous research suggesting that investors favour male-led startups. Nevertheless, it raises an important question of whether an entrepreneur's gender does not influence an investor's investment decisions. However, firm valuations are statistically significantly different between women-led firms and men-led firms, with women-led firms receiving lower valuations. Specifically, it highlights the need to resolve biases that impact investment decisions, particularly when it comes to valuing women-led businesses equally with their male counterparts.

While the gap in the valuation of startups between those run by men and women is an area of concern, our results regarding the investment decisions themselves are somewhat encouraging. Specifically, there is no statistically significant evidence of gender bias in terms of the identity of the entrepreneur being funded and the overall decision to fund by the investor. In other words, there is a willingness to fund ventures started by women in the Indian startup ecosystem. Yet, the valuation gap is a critical area for improvement to harness Sheconomics. By ensuring that start-ups are getting a fair valuation, we can encourage more and more qualified women to chase their dreams of starting a new business ultimately leading to a more vibrant Indian startup ecosystem.

6. Conclusion

The findings of this study challenge some common beliefsregarding gender bias, and gender homophily in Indian entrepreneurial financedecisions.While our data does not show any evidence of gender homophily or bias in investment decisions, the significant valuation gap between male-led and female-led startups remains a great concern. Further research is needed to understand the underlying reasons for this disparity. This might involve conducting in-depth interviews with investors to better understand their decision-making processes and try to identify if any unconscious behavioural biases like risk aversion, Familiarity Bias or any other bias might be at play. Additionally, they can also investigate the characteristics of the industry, sector, growth potential, and team experience, which could also provide insights into the valuation difference.

7. Practical Implications

Several practical implications of our findings can be drawn for Indian policymakers, investors, and female entrepreneurs. Most importantly, a need to boost the number of initiatives aimed at encouraging women's entrepreneurship and improving their access to financial assistance. At the same time, potential investors must recognise the risk of biased attitudes and support equal opportunity-based judgements. Female entrepreneurs, on the other hand, should use this as an opportunity to be more aggressive and seek out new ways to meet investors and develop their networking.

8. Limitations of the Study

Although our research offers valuable insights, it is essential to acknowledge its limitations. Firstly, our analysis is based on the data from a TV reality show, which may fail to properly represent the Indian startup ecosystem. Furthermore, our study only focuses on gender dynamics of investment decisions and does not explore other factors that may influence Investment decisions for startups.

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Challenges of the Fifth Industrial Revolution: A Systematic Literature Review

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Abstract

Purpose: The study is intended to describe an overview of Industry 5.0, highlight its difficulties in the current economic environment, and demonstrate how to plan and execute future corporate structures.

Design/Methodology/approach: The authors used a systematic literature review of articles related to Industry 5.0. The Scopus and Web of Science database was used to extract the articles to be reviewed.

Findings: The results show that Industry 5.0 stands for the next phase of industrial transformation, providing viable answers to the ecological and societal problems that Industry 4.0 either failed to address or made worse.

Research Limitations: The study is based only on two databases. Therefore, some articles were left from other databases such as Ebscohost, Proquest, PubMed, etc.

Implication: The difficulties of integrating with current systems can be effectively addressed during deployment.

Originality/Value: The traditional industries have changed to become socially conscious as a result of an increase in emphasis on sustainability and resilience. This article examines the obstacles to Industry 5.0 adoption.

Keywords: Automation, Industry 4.0, Industry 5.0, Robotics, Technology

1. Introduction:

The last ten years have seen the provision of Industry 4.0 to address the flaws within the industry; at last, Industry 5.0 is becoming necessary. Industry 4.0 has limits since smart factories boost corporate productivity. In 2021, the European Commission proposed that the industry in Europe realign its social roles and advance this idea to characterize the coming success of European business (European Commission, 2021). Aligning "the green" and "the digital transitions" to establish an increasingly effective, resilient, and sustainable society and economy is the fifth industrial revolution (European Commission, 2021). By stressing the social function of industry, Industry 5.0 enhances the techno-economic agenda of the Industry 4.0 paradigm (Kagermann et al., 2013). Although the literature offers conflicting accounts of Industry 4.0's advancement across a range of sectors and geographical areas (Ghobakhloo et al., 2021; Ijaz Baig and Yadegaridehkordi, 2023), there are arguments on the fifth industrial revolution's presence (Sindhwani et al., 2022). Values are what propel Industry 5.0, whereas technology is assumed to be the driving force behind Industry 4.0.

An array of frameworks, architectural designs, and models have been created and laid out in earlier studies to help better clarify Industry 4.0's functions and the technologies that underpin it. Industry 5.0 is a phenomenon that has received much less research attention than Industry 4.0 (Breque et al., 2021a; Fatima et al., 2022). Supporters of Industry 5.0 present two opposing viewpoints while elucidating the mechanism underlying this phenomenon. According to the first viewpoint, the workplace of the future will be revolutionized by the unprecedently rapid growth of disruptive technologies like 6 G, AI, and cognitive computing, which will seamlessly integrate people with machines and the surrounding technological environment (Chen and Okada, 2020; Xu, Zhou, et al., 2021). The second viewpoint maintains a comprehensive techno-cultural understanding of the forces driving Industry 5.0 and contends that this phenomenon explicitly tackles two major shortcomings of Industry 4.0: proficiency and technology (Broo et al., 2022; Dautaj and Rossi, 2022). The latter viewpoint, which claims that an eco-friendly, human-centered, and resilient industry should be given priority

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in this phenomenon, has recently gained attention to the European Commission's Industry 5.0 agenda (Breque et al., 2021a). The main obstacles that could prevent the adoption process from occurring must be recognized and assessed to effectively support the creation and execution of I5.0 projects in emerging economies (Karmaker et al., 2023).

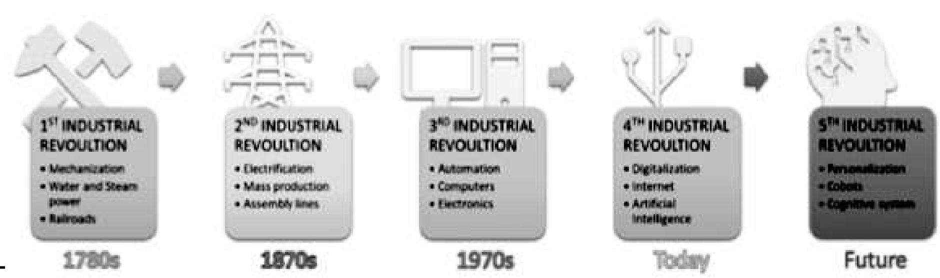
2. History of Industrial Revolutions:

The reshaping of society as a result of technological and technical advancements is known as the Industrial Revolution. Every phase has a gentle transition from one to the next, making it impossible to identify distinct borders between them (Nikishina, 2023). A significant change took place throughout the first industrial revolution in the 18th century, when products were manufactured using machine-manufacturable methods and procedures that had been invented. While a few negative aspects of this revolution included pollution and the time it took to perform the corresponding actions. Industry 1.0 made use of geometry and linear programming (Vinitha et al., 2020). At long last, it had spread to the United States from its beginnings in England in 1760. Industry 1.0 affected several industries, including mining, textile, agriculture, glass, and many more, by signaling a change from a handcraft society to one dominated by machinery (Longo et al., 2020).

Further, the period from 1871 to 1914, represents the second revolution indicating subsequent transformation in the manufacturing sector which made it possible for creative ideas and people to move more quickly. Iron, steel, trains, electricity, paper, petroleum, chemical, marine technology, rubber, cars, applied science, turbines, telecommuting, and contemporary business management were the primary subjects of this revolution (Akundi et al., 2022). Advantages of this revolutionary change include continuous growth, job opportunities, and development in agriculture, and logistics. A few negative aspects of this revolution included pollution and the time it took to perform the corresponding actions. Economic expansion throughout the second revolution has increased corporate productivity, which has led to a spike in joblessness as robots take the place of factory labor (Adel, 2022).

The third industrial revolution was under way in the 1970s consisting mechanization of computers and memory-programmable controls (Adel, 2022). Production in large quantities and the application of integrated circuit chips and digital logic, Smartphones, etc. were the focal points of this specific period (He et al., 2017). Robots, automated industries, renewable energy, and telecommunication are among the innovations of this revolution. The primary problem with Industry 3.0 is that certain situations would make automated systems unusable (Vinitha et al., 2020). Logical controllers, differential equations, and linear programming were the mathematical instruments used in Industry 3.0. There are characteristics shared by all industrial revolutions that enable them to be classified as revolutions rather than just incremental improvements in industry. As Fig. 1 illustrates, the accumulation of a sufficient number of entirely new industrial production techniques is a prerequisite for the formation of each industrial revolution. Consequently, the real economy is developing evolutionarily. The shift from volume to quality in technology is initiated once these developments reach a certain threshold and obtain the requisite development to enable their practical deployment into industrial production (Popkova et al., 2019).

Figure 1.
Stages of Industrial Revolutions



Source: (Raja Santhi and Muthuswamy, 2023)

The term "Industry 4.0" was coined in Germany in 2011(Lattanzio et al., 2022). The advent of Industry 4.0 in the modern era focused on the use of intelligent systems across all industries. Machine learning in the fourth industrial revolution is facilitating the creation of fully automated and artificially intelligent systems capable of operating in unstable conditions (Akundi et al., 2022). This revolution has two drawbacks: it may leave vulnerable cloud data on the cloud, and it lacks fully developed business-specific expert systems. Network theory and optimization techniques are two mathematical tools used by Industry 4.0. Compared to earlier industrial revolutions, this revolution is exceptional and has a variety of unique characteristics. It envisions the complete removal of humans from every aspect of production, complete automation of the manufacturing process, the creation of global industrial chains concurrent with the abolition of detrimental social effects, a shift in the fundamental nature of industrial patents, and the ability to quickly alter the focus of industrial production. Industry 4.0 is facilitated by nine important technologies identified by Boston Consulting Group including big data, cloud computing, simulation, industrial internet of things, cyber security, etc.(Rüßmann et al., 2015).

The phrase "Industry 5.0" first appeared in scholarly works in 2016 (Lattanzio et al., 2022) and Michael Rada is credited with coining the phrase "Industry 5.0" (Rada, 2015). One of the main features of Industry 5.0 is the application of risk-reduction collaborative robots. These robots can perceive, sense, and comprehend the human operator together with the objectives and standards of the job they are carrying out. These robots assist human operators in carrying out tasks by observing and learning from how an individual completes them. Moreover, Industry 5.0 demands artificial intelligence be integrated with human existence to maximize human potential. Industry 5.0 actively uses sophisticated IT innovations; robots, artificial intelligence, Internet of Things for the convenience and well-being of human labor (Skobelev and Borovik, 2017). The progression of revolution from Industry 1.0 to Industry 5.0 is depicted in Figure 1.

3. Research Methods:

Scopus and Web of Science databases were searched to extract the relevant articles. "Industry 5.0", "Fifth Industrial Revolution", "5th Industrial Revolution", and "challenges" were the keywords used in different combinations. Initially, 796 articles were identified, and 655 after removing duplicates. In addition, a hands-on search was made in Google Scholar to find the relevant articles. In this way, 661 articles were identified. The titles and abstracts were screened manually by the authors. Thereafter, the full manuscript was reviewed and this way, 28 articles were eligible for the final review (Fig. 2). No particular timeframe was chosen. The procedure for searching the literature and choosing articles is shown in Figure 2.

4. Industry 5.0 Definitions

There are numerous definitions of the Fifth Industrial Revolution given by different industrialists and scholars. The European Commission has defined Industry 5.0 as the ambition of industries away from productivity and performance and to make a positive social impact by putting workers in the manufacturing process (Raja Santhi and Muthuswamy, 2023). Further, it was recognized that Industry 5.0 is a well-considered idea that takes into account the future of the sector as an adaptable, sustainable, and human-centered manufacturing and production structure (Breque et al., 2021a). Further, building on the idea and methods of Industry 4.0, Industry 5.0 was suggested as a much-needed evolutionary and gradual improvement (Özdemir and Hekim, 2018). The fifth industrial revolution is the Social Smart Factory era, whereby cobots can converse with people (Koch et al., 2017). According to Nahavandi (2019), Industry 5.0 introduces human labor into the manufacturing process. Humans and machines work together to improve process efficiency by harnessing human intelligence and inventiveness.

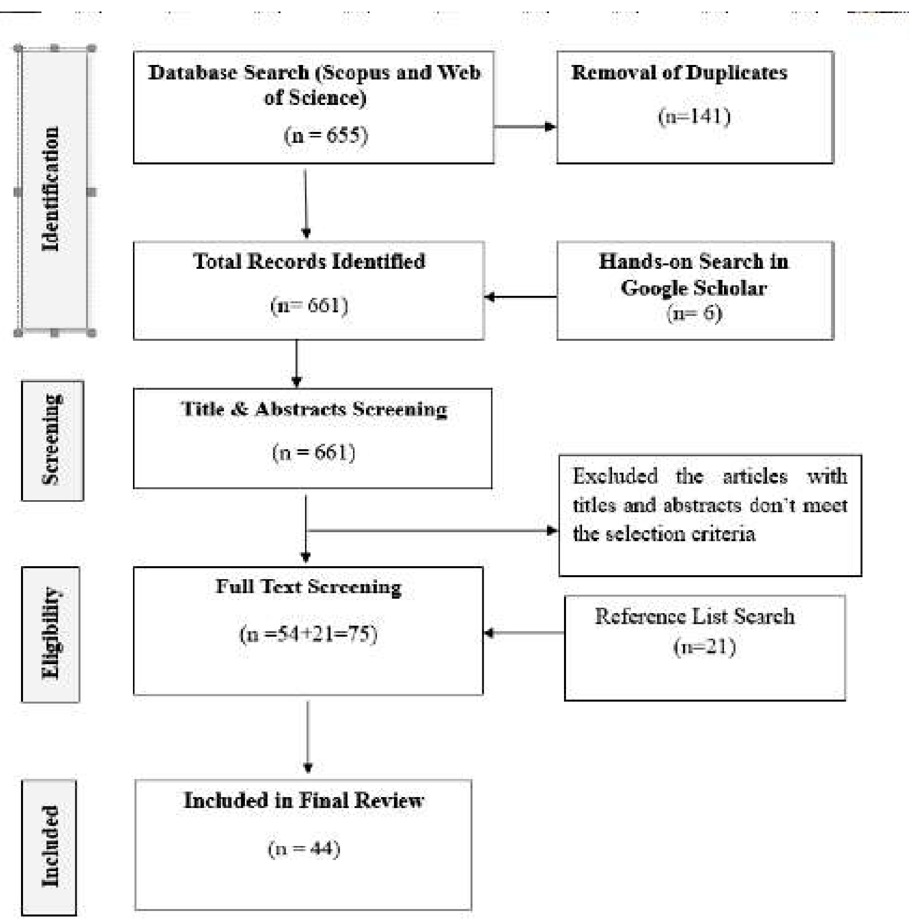


Figure 2.
Articles Selection Process

Further, Rada (2020) defined Industry 5.0 as the first human-led industrial evolution built on the 6R "Recognize, Reconsider, Realize, Reduce, Reuse, and Recycle" tenets of industrial refurbishing, a methodical approach for garbage prevention, and an efficient logistics design to assess living standards, generate creative ideas, and create superior custom products. In addition, Industry 5.0 is a progressive development from Industry 4.0 and represents the forthcoming wave of global governance. Through the separation of the hyper connected automated systems for production and manufacturing, it seeks to develop orthogonal safe exits (Show et al., 2021). In addition, some of the definitions of Industry 5.0 are presented in Table I below:

Table 1.
Definitions of Industry 5.0

Sr. No.	Authors	Definitions
1	(Javaid *et al.*, 2020; Martos *et al.*, 2021)	"The term Industry 5.0 refers to people working with robots and smart machines. It is about robots helping humans work faster by leveraging advanced technologies such as big data analytics"
2	(Imoize *et al.*, 2021)	"Industry 5.0 is termed as the evolution in which man and machine are finding ways to work for improvement means and efficiency of the manufacturing production."
3	(Ocicka and Turek, 2021)	"Industry 5.0 is compelled with various industries technologists, philosophies, and others to focus on the human factors and technologies in the manufacturing systems."
4	(Carayannis *et al.*, 2021; Masood and Sonntag, 2020)	"Industry 5.0 is considered the edge of the smart factory, where it communicates with robots and humans. It uses social networks for communication purposes among humans and electronics components."
5	(Ietto *et al.*, 2022)	"Industry 5.0 added human -centric, sustainable, and resilient concepts to the industrial revolution. It will revolutionize the manufacturing systems worldwide by preventing repetitive tasks from human workers."

Source: (Adel, 2022)

5. Industry 4.0 vs. Industry 5.0:

Industry 5.0 is not entirely new; it has a solid foundation in Industry 4.0. However, Industry 5.0 differs in that its primary objective is to manufacture goods and services for profit while also placing a high priority on the social and environmental elements of manufacturing (Leng, Sha, et al., 2022; Xu, Lu, et al., 2021). Several conversations in academia and industry have been sparked by the fifth industrial revolution (Demir et al., 2019). Numerous theories have been proposed by scholars to explain the achievements of Industry 5.0. Ozdemir and Hekim (2018) described the fifth industrial revolution as a logical progression. In summary, this revolution will support the development of a human-focused, resilient, and environmentally friendly production industry, whereas Industry 4.0 enhances corporate operations (Masoomi et al., 2023). While Industry 5.0 is determined by values, a common perception of Industry 4.0 is that it is a technology-driven sector.

Industry 4.0 and Industry 5.0 can coexist since Industry 5.0 expands and enhances its characteristics (Xu, Lu, et al., 2021). Further, Industry 5.0 is an adjunct to the current Industry 4.0 as it places research and innovation towards the cutting edge of the transition to a sustainable and human-centered European industry (Breque et al., 2021b). Golovianko et al, (2023) observed the idea of Cyber-Physical Systems in the framework of Industry 4.0 evolving into Cyber-Physical-Social Systems in the overall setting of Industry 5.0. Performance would rise if Industry 4.0 and Industry 5.0 coexist successfully without eliminating the need for human labor in the production processes (Breque et al., 2021b).

Industry 4.0 aims to boost mass production and performance by leveraging machine learning to deliver insight across devices and applications (Azeem et al., 2022) while Industry 5.0 focuses on leveraging human specialists' unique ingenuity in combination with robust, intelligent, and precise machinery. Collaboration between robotics and intellectual professionals creates more well-trained positions compared to Industry 4.0. The main goal of Industry 5.0 is huge customization since people will be controlling and guiding robots (Nahavandi, 2019). While the main goal of Industry 5.0 is to increase customer happiness, Industry 4.0 already has robots heavily involved in massive production. In addition, Industry 4.0 focuses on CPS communication, and Industry 5.0 establishes a connection between cobots (Maddikunta et al., 2022).

6. Challenges of Industry 5.0:

Industry 5.0 has numerous promising ideas for the upcoming industrial period; yet, it also encounters certain challenges in the process of driving the industrial revolution (Leng, et al., 2022). It can be stimulating and difficult to see how society is shifting its priorities from economic expansion and employment to improving sustainability and resilience in the industrial process including personnel welfare (Demir et al., 2019). The cognitive capacities needed for the fifth revolution will be far more extensive. The latest advances in artificial intelligence fail to address the difficulties of Industry 5.0, in which fields of knowledge are ambiguous and complicated (Olaizola et al., 2022). IBM's Watson's failure in the healthcare industry serves as a classic illustration of the present constraints of artificial intelligence in fields requiring complicated processes and high analytical sophistication (Advisory Board, 2022). Further, Verma et al., (2022) explained that several complexities are present in using blockchain as a standard technology in Industry 5.0. First is the centralized process of the production control mechanisms in use today that are larger and more intricate to scale for the company's operations. Next, the blockchain network is used to retain and validate every transaction and it takes longer to go through every block in the chain. Because each block size is predetermined, only a certain amount of transactional data may be handled. Numerous transactions take place in real-time industrial settings, which presents scalability challenges and makes the deployment of BC challenging (Verma et al., 2022). Moreover, implementing BC comes at a significant resource expense. Further, Rajesh (2023) stated that it is extremely hard to create value in a socially diverse community since the demands of individuals can vary. As a result, developing social heterogeneity in value for the anticipated advantages of adopting and implementing Industry 5.0 could prove difficult. In addition, the fifth edition of the Industrial Revolution aims to promote environmental and societal values and is expected to increase output utilizing digital technology where evaluating performance can be challenging (Rajesh, 2023). Table II summarizes the key challenges of Industry 5.0 as under:

Table 2.
Summary of Challenges of Industry 5.0:

Competency Skills	(Adel, 2022), (Komar *et al.*, 2022), (Leng, Sha, *et al.*, 2022), (Rajesh, 2023)
Technical Skills	(Adel, 2022), (Leng, Sha, *et al.*, 2022), (Rajesh, 2023)
Human-Machine Collaboration	(Adel, 2022), (Kaasinen *et al.*, 2022), (Mincă et al., 2022), (Rajesh, 2023)
Investments on Training	(Adel, 2022)
Security and Privacy	(Adel, 2022), (Leng, Chen, *et al.*, 2022), (Leng, Sha, *et al.*, 2022), (Verma *et al.*, 2022), (Kankekar *et al.*, 2023), (Maddikunta *et al.*, 2022)
Time-Consuming	(Adel, 2022), (Kaasinen *et al.*, 2022)
Heterogeneity of Systems	(Leng, Sha, *et al.*, 2022)
Managing and Processing of Increasing Data	(Leng, Chen, *et al.*, 2022)
Lack of Management Support	(Kankekar *et al.*, 2023)
Regulations and Management	(Verma *et al.*, 2022), (Leng, Sha, *et al.*, 2022)
Social heterogeneity in terms of values	(Xu, Lu, *et al.*, 2021)

Source: Compiled by Authors

6.1 Skill Gap:
A high level of technological proficiency is demanded for the fifth industrial revolution (Adel, 2022) and it is quite challenging to locate qualified individuals who can accomplish precise man-machine synchronization (Maisiri et al., 2019). Therefore, businesses must put additional efforts into upgrading their present personnel (Ra et al., 2019). According to Kamble et al. (2018), employees frequently do not have the necessary technical skills and norms to adopt Industry 5.0. The use of Industry 5.0 innovations and methods by organizations that lack the necessary technological expertise may impede their capacity to effectively leverage technology. People must acquire competency abilities because, in addition to working with sophisticated robots, they must learn how to collaborate with smart machines (Narvaez Rojas et al., 2021). Retraining and upskilling current staff or hiring highly qualified personnel carries a significant financial risk. Additionally, because most businesses have not yet fully implemented several prospective Industry 5.0 technologies, finding competent labor can be more difficult for developing nations. These disparities may significantly affect how well Industry 5.0 is implemented. Additionally, because personal problem-solving cannot be mechanized, employees must possess strong problem-solving abilities (Dombrowski et al., 2014). Employers who invest in skill development and training for their local workforce can guarantee a trustworthy and permanent team of employees (Aday and Aday, 2020).

6.2 Data Security and Privacy:
One common aspect of Industry 4.0, appears to be the utilization of massive amounts of data enabling system forecasting and management (Jiang et al., 2019). Due to the massive volumes of data needed by Industry 5.0, there may be security risks from data theft and hacking (Ferencz et al., 2021). Moreover, businesses are linked in the era of fully realized big data, and this process will produce a lot of complicated, heterogeneous data that will cause issues with data correctness, consistency, and quality, among other issues. Therefore, to guarantee that confidential information is safeguarded, businesses must modernize their security and privacy measures (Qu et al., 2020). Since integrating the current systems requires the transmission of massive amounts of data, it is important to understand how the data is going to be used before providing it to a stakeholder (Rajesh, 2023). Security and privacy continue to present an additional difficulty in the deployment of Industry 5.0, despite being more difficult with the introduction of Industry 4.0. The use of robotics and artificial intelligence in Industry 5.0 poses risks to the company, thus reliable security is necessary (Li et al., 2019). To solve these issues, a lot of focus needs to be put on developing and putting into place efficient data privacy and security rules and procedures (Gomathi et al., 2023).

6.3 Investment in Training:
Enhancing education and training focuses on delivering employees the abilities and expertise required to collaborate with digital technology during the manufacturing process. This involves instruction in soft skills to cultivate the social and creative intelligence required, in

addition to technical training for operating and maintaining machinery (Pinto et al., 2023). Training employees is necessary for integrating technology with humans (Barata and Kayser, 2023; Leng et al., 2023). Manufacturing businesses are implementing a variety of quality-management technologies to enhance their operational efficiency and attain high quality in their products and processes (Kumar et al., 2018). Zero Defect Manufacturing (ZDM) is the newest method of quality assurance (Psarommatis et al., 2020). ZDM enforces certain new regulations. So engineers and blue-collar workers must receive ZDM technology training. Industry 5.0, on the other hand, requires interdisciplinary and multi-technical knowledge, which increases the need for personnel with the right training and complicates the training process (Leng, Sha, et al., 2022). Also, reskilling laborers for fresh positions comes at a higher expense. It is difficult for businesses to update their production processes to get ready for Industry 5.0 (Adel, 2022). Moreover, several issues have been highlighted in research that prevent organizations from providing their staff with training courses. The cost and amount of work required to complete the training programs are the two most significant of these issues (Cromwell and Kolb, 2004).

6.4 Regulations and Management:

One significant barrier is the centralized process of the industrial control systems in use today. These structures are larger and more intricate to scale for commercial operations. If the central arrangement is conciliated, increased network suspension and processing power emerge from the necessity of redirecting all information (Verma et al., 2022). Officials in a centralized system are fully authorized to confirm the user's transaction. A peer-to-peer linked platform set validates the transaction in a decentralized system. Nonetheless, P2P communication protocols ought to be consistently governed for every kind of application. Creating a single web framework with data communicated via APIs to ensure more control between apps and service endpoints is one potential option.

6.5 Human-Machine Collaboration:

The tenet of I5.0 is that humans and robots should work together instead of against each other to accomplish a shared objective (Sharma et al., 2022). This approach eliminates the requirement for a vast sensory network, computing power, and data storage while combining and enhancing human cognition with machine intelligence to enable endless creativity (Huang et al., 2022). Consequently, human-robot collaboration may lead to several issues if suitable boundaries aren't present. Therefore, precise definitions of a machine and a robot should be included in rules controlling the collaboration of robots and humans (Demir et al., 2019). Industry 5.0 puts human labor again on the manufacturing floor, where workers will collaborate with Cobots. Even if it appears to be a productive method for creating customized items, some concerns about humans and robots working together need to be taken into account. Furthermore, once humans and robots divide the workload, people's fear of losing their employment will be eliminated (Maddikunta et al., 2022). By doing repetitive tasks, cobots will free up human resources to focus entirely on creativity and invention. It will prove better for cobots to support humans rather than the other way around, which could disrupt the current corporate culture of position competitiveness and cause disorder in organizational behavior. This could lead to a variety of issues, including the changing role of human resources, robotics in IT offices, issues concerning ethics, preparing people to face off with autonomous robots, legal problems, mental health issues about making people adopt new working practices, and job dynamics analysis for both cobots and humans (Sheridan, 2016).

6.6 Ethical and Social Challenges:

Job losses and cross-training may occur because Industry 5.0 implementation requires highly qualified laborers. In addition, as machines can do dangerous and monotonous tasks and experienced workers are needed to coordinate and make timely judgments and decisions, there may be ethical concerns over automation and its effects on society. When it comes to job displacement, ethical challenges can have a major detrimental effect on the psychological well-being of staff members, which can then harm the production processes as a whole

(Fossen and Sorgner, 2022). As a result, businesses must pay close attention to the ethical challenges and guarantee that their innovations are sustainable and responsible.
Society will undoubtedly go through several changes as we approach the Industry 5.0 age, which will result in social ideals and acceptance becoming more diverse (Leng, Sha, et al., 2022). In terms of societal ideals, they require time to develop and appropriate policies to direct them. In addition, the shift in society's manufacturing duties from technology-driven to focus on value will damage the chain's overall structure and lead to excessive production, which will have an impact on the value chain's stability. It is now clear that social systems will be significantly impacted by Industry 5.0 development, which will consequently be constrained by several social variables.

6.7 Lack of Infrastructure:
Given its substantial weight in ideal standards, industrial executives must devote considerable resources to establishing technological infrastructure to introduce computerization into current production processes (Moktadir et al., 2018). Industry 5.0 cannot be supported in an inadequate infrastructure because of inadequate funding or ineffective resource allocation. Modern technical infrastructure that offers quick, safe, and dependable services is necessary to guarantee near-real-time access to information (Rüßmann et al., 2015). Once the problem with the technology infrastructure is solved, it will be simple to deal with and resolve additional issues. Once the problem with the technology infrastructure is solved, it will be simple to resolve additional issues. Industry 5.0 necessitates an ICT infrastructure with a fast and dependable internet to share data at an even greater scale as well as quality than current networks (Sayem et al., 2022). Adopting Industry 5.0 may be difficult due to inadequate ICT infrastructure and ambiguous contracts about liability, privacy, and the effects of data loss (Kankekar et al., 2023). The implementation of horizontal, vertical, and end-to-end integration for Industry 5.0 will be problematic in the absence of ICT infrastructure (Xu et al., 2018). As a result, the biggest obstacle to implementing Industry 5.0 is the lack of advanced technology infrastructure.

7. Discussion:
Industry 5.0 plans depict future facilities that are person-centered, robust, and sustainable, with intelligent robots and human operators cooperating in teams. For such groups to adapt to shifting circumstances in their surroundings, they must possess resilience (Kaasinen et al., 2022). Resilience must be demonstrated by dynamic work distribution and team members' adaptability to shifting responsibilities. When an integrated cognitive system is first created and put into use, it consistently evolves together as both machine actors and human actors pick up new talents and skills. Furthermore, as the manufacturing atmosphere shifts, the structure must be flexible and adaptable to meet evolving demands and specifications (Kaasinen et al., 2022).
Drawing from the researchers' definitions, it is evident that Industry 5.0 is the next phase of industrialization rather than an evolution in which humans and robots collaborate. Enabling cobots to learn and deal with a radical transformation of the human brain while collaborating is crucial. This involves combining human intelligence with machine intelligence. According to the review, the regulatory constraints seem to pose the most significant obstacle that must be overcome before implementing Industry 5.0. Since the related technologies are freshly developed and the laws may have been established earlier, as we have previously stated, it is imperative to ensure that the technologies both meet current standards and are ready to support any future expected regulatory challenges (Rajesh, 2023). Further, given that the regulatory challenges may result in additional difficulties when implementing Industry 5.0, it is essential to give it more priority. The second biggest obstacle to Industry 5.0 and associated technology implementation seems to be integration with current systems. In summary, the study's results indicate that an organized framework that businesses and governments can use to get important insights into how to comprehend and handle these problems is necessary for the effective execution of I5.0 projects. Artificial intelligence won't be the only source of innovation in cognition in the future. Rather, the ability of humans and robots to work together will be crucial in overcoming the obstacles that large data-driven,

broad thinking will bring. Even though humans will need to learn how to work together in this manner (Olaizola et al., 2022).

8. Conclusion:

In this article, the authors presented how Industry 5.0 has been defined by different scholars. In addition, the authors reviewed the challenges of the fifth industrial revolution. Conclusively, Industry 5.0 roars out of quiet on the verge of this sunup, when ideas like Industry 4.0 and Society 5.0 are fully realized. The goal of the Industry 5.0 idea is to properly balance human and machine efficiency. This is a revolutionary change that provides a solution because it places less focus on technology and assumes that human-machine cooperation is what drives growth.

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Chandrayaan-3: A Case Study in India's Technological Triumph, Tenacity and Impact

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Abstract

Purpose: This case study is an attempt to analyse in depth the various dimensions behind the spectacular success of Chandrayaan-3 mission. The background of this mission was utilised for highlighting the learning that was used from the failure of Chandrayaan-2 mission. The implications of the success was discussed in detail. Library research method (George 2008) was used, secondary data was collected. Secondary data available in public domain, which was used for the study. The study highlights the impact on various dimensions like, psychological, sociological, political, economic etc.

Key words: Chandrayaan-3, Implications of mission, Psychology, Sociology, Politcs, Economy.

1. Introduction:

In many countries, the space exploration related work needs astronomical budgets. However, India's Chandrayaan-3 mission stands as a special case to exemplify the power of ingenuity, determination, scientific excellence and achieving the extraordinary within the limited resources. Launched successfully, this mission not only marks a significant technological achievement but also symbolizes the indomitable spirit of human curiosity, aspiration, teamwork, motivation and resilience. After the Chandrayaan-1 mission in 2008, which made a significant discovery of water molecules on the Moon, and the Chandrayaan-2 mission in 2019, which could not make a soft landing, the success of Chandrayaan-3 mission symbolizes India's continued commitment and resilience in lunar exploration.

2. Background:

The Indian Space Research Organisation (ISRO) was established way back in 1969, when India was just in the phase of progress & consolidation after a long period of freedom struggle and was just around 20 years into it's independence. The typical 'air' in the country amongst the general population was full of a sense of national pride. In this scenario, ISRO has evolved slowly and significantly, marking its journey from launching small satellites to executing complex lunar missions. This evolution right from beginning was a proof of India's growing capabilities in space technology.

On 23rd August 2023, the Chandrayaan-3 made successful soft landing on the moon's South pole, making India the first country to have this historic achievement. India became the fourth country after United States, China, and Russia, to have successfully landed on the moon's surface. The lander module was having the lander (Vikram) and the 26 kg rover, named as Pragyan. Chandrayaan-3 mission was launched on 14th July 2023 onboard Launch Vehicle Mark-III (LVM-3) rocket, for a 41days journey to reach near the lunar south pole. The Chandrayaan-3 mission was part of ambitious program of the Indian Space Research Organisation (ISRO). We remember the Chandrayaan-1 mission which was launched in 2008, which discovered water molecules on the Moon, and then the Chandrayaan-2 in 2019, which aimed at a soft landing but faced a setback at the last moment. After that, Chandrayaan-3's journey reflects perseverance and resilience of the team. The objective of this mission was to ensure successful soft landing at the surface of South Pole of moon. This area was not explored by any other country. The success of Chandrayaan-3's mission was an important part of India's lunar exploration efforts, and it is an example of India's resolve of technological and economic achievements considering India's evolving socio-economic and political

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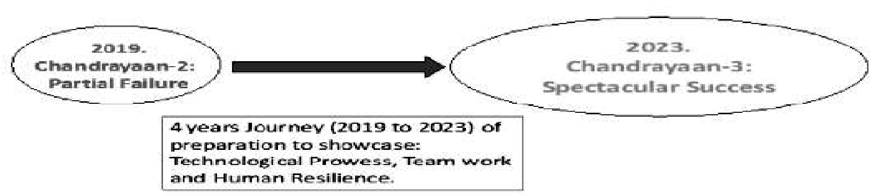
landscape. This study is an attempt to explain that how this challenging mission was achieved with a cost-effective approach and using indigenous technology. It also reflects India's socio-political scenario, economic priorities, and technological advancement. This case study explores the psychological impact of Chandrayaan-3 mission on the Indian masses, especially in terms of national pride, collective motivation, and the triggering of scientific curiosity amongst the youth of India. It examines the sociological implications of the mission, considering how the success of the mission affects India's internal social dynamics, including perception of the general public and influencing the youth for science and technology stream. The case study also analyses the political narratives surrounding Chandrayaan-3, explaining that how the success of this mission has reinforced India's global position and respect as a rising space power capable of ambitious space missions on a limited budget and resource. This includes an assessment of the mission's role in India's diplomatic relations with other countries and its contribution to international space collaborations.

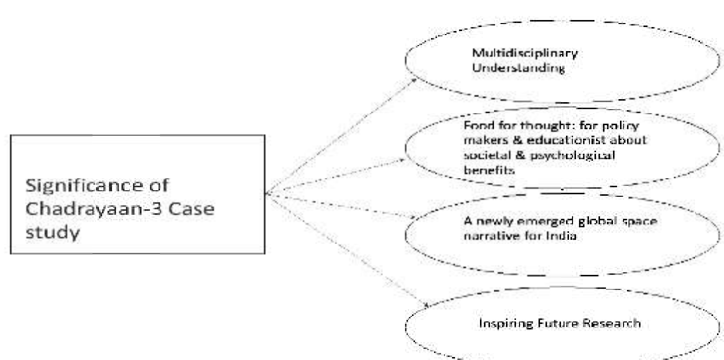
In brief, this study provides a multidisciplinary perspective on Chandrayaan-3 mission, incorporating elements from psychology, sociology, political science, economics etc., to offer a holistic view of the mission's impact on India and its standing on global image.

Chandrayaan- 2 mission and it's failure:

India's second moon mission Chandrayaan -2 was launched by Indian Space Research Organization on 22nd July, 2019, but it was heart-breaking for every Indian in September 2019 when they were looking at the landing process and suddenly their TV screens froze, and eventually, ISRO lost all contacts with the Vikram lander which was expected to land on the moon's surface. The contact with the lander was lost just 400 meters away from the landing surface of moon. The available reason of crash- landing of Vikram lander was that it tilted 410 degrees instead of the planned 55 degrees. When the Vikram lander tilted from its set trajectory, the scientists could do nothing but be silent spectators. As per experts in Indian Space Research Organization (ISRO), the velocity of the lander was supposed to slow down from 6000 kmph to 0 kmph in four phases, but the space agency lost contact with it minutes before its touchdown. The scientists were of the opinion that a software glitch was attributed as the reason behind losing contact with the lander. Due to the change in trajectory and the lack of speed reduction, the Vikram lander along with the moon rover Pragyan crash landed on the Moon.



Conceptual Model 1: Author



Conceptual Model 2: Author

A glimpse of various theories which can connected with the success case of India's Chandrayaan-3 mission:

Some of the following theories are connected with the Chandrayaan-3 mission.

Innovation Diffusion Theory (IDT): This theory was proposed by Everett Rogers. Going by this theory, the technological innovations of Chandrayaan-3 can be communicated and adopted within the scientific community of India and beyond. This IDT framework helps in understanding the dissemination of new technologies developed and their adoption by other sectors and the overall impact on India's technological landscape.

Social Cognitive Theory (SCT): This theory was proposed by Bandura. As per this theory, we can examine the psychological impacts of the success of Chandrayaan-3 mission. This theory focusses on observational learning, self-efficacy, and social influence. It helps us to understand how the success of this mission influences the perception of the general public of the country regarding the strength of science, the motivation of young students for STEM fields and the collective belief in technological capabilities.

Postcolonial Theory: This theory was proposed by Edward Said (1978). Postcolonial Theory can be used to explore the effects and legacies of colonial mindset. And this can be applied to assess how the success of Chandrayaan-3 is changing the narrative of India's scientific and technological progress on the global stage. This theory helps one to facilitate the analysis regarding how the success of Chandrayaan-3 mission has challenged the traditional power dynamics of the countries in area of space exploration and how it is contributing to help India getting a new identity as a space power.

Public Goods Theory: This theory was proposed by Paul Samuelson (1954). This theory can be very well utilised to assess the economic implications of the Chandrayaan-3's mission. It will help in analysing how the mission, as a public good, has contributed to the national economy, its impact on public spending, and how it provides direction for economic activities in related other sectors as well.

Geopolitical Theory: One of the geo political theories was proposed by Mackinder (1919). The case study leverages the various geopolitical theories to understand the political implications of the success of Chandrayaan-3. The scope of examining the geo-political impact may include how the Chandrayaan-3 mission has influenced India's international relations, the diplomatic strategies in the context of space exploration, and how it shapes India's geopolitical standing in the world.

Cultural Theory of Risk: This theory was propounded by Mary Douglas et al. (1980). The theory tries to explore that how different societies and nations perceive risks and respond to such risks. This theory can be applied to understand public and institutional responses to the risks associated with the mission of Chandrayaan-3. This includes the perception & impact of the mission's success or failure. It may influence the decision-making of the society and the nation in future space endeavours.

The above-mentioned theories set the foundation for an in-depth analysis of the Chandrayaan-3 mission from multiple perspectives. By applying these theories, we can get a comprehensive understanding of the technological, psychological, economic, political, and cultural dimensions of the mission and its broader implications for India and the global community.

3. Insight into various aspects which are connected with India's Chandrayaan-3 mission:

Technological and Economic aspect:

Table 1.
sample characteristics

Many studies (e.g., Nair, 2021; Kapoor & Singh, 2022) have conducted studies on the technological innovations and cost-effective strategies in India's space missions, particularly Chandrayaan-3. These studies highlight how the approach of ISRO disrupts the high-cost model which traditionally adopted by other countries on space exploration.

Research by Patel and Kumar (2023) suggests high economic implications of such missions for some other countries which are emerging economies. The study says that success of such missions has the ability to offer blueprint for cost-effective space exploration and at the same time stimulating the technological advancements and industrial growth.

Psychological Impact:

Research work of Desai and Sharma (2022) suggest huge impact due to psychological

upliftment and national pride experienced by the Indian population due to the success of such missions of national importance. Findings also suggest a significant boost in national self-esteem and boosting the interest of the youth in STEM fields.
Ghosh (2023) talks about the phenomenon of 'collective resilience' after the setback of Chandrayaan-2 mission, and emphasizing how Chandrayaan-3 became a symbol of perseverance and optimism for the Indian population and youth.

Sociological Perspectives:
Studies by Rao and Nandan (2024) suggest high sociological impact of space missions in India, particularly it's influence on education, scientific literacy, and public engagement in science.
Studies by Singh and Ali (2023) discussed how such missions can be useful to bridge social divide in India and foster a sense of unity and shared purpose. It further examines the role of media in shaping public perception.
Political Science and International Relations aspect:
Research by Krishnan and Lee (2023) talks about geopolitical implications of Chandrayaan-3, analysing how India's space achievements enhance its international stature and diplomatic leverage to a great extent.
Research by Banerjee (2022) provides a comprehensive view of how space missions like Chandrayaan-3 contribute to soft power dynamics, improving India's global image and providing opportunities for international collaborations.

Global and Regional Implications aspect:
The work of Thakur and Nguyen (2024) helps to have discussions on the global context. The work examines the role of the newly emerging space powers in democratizing space exploration and challenging the traditional space power hierarchy. Comparative studies by Mehta and Park (2023) also highlight how India's space programs, exemplified by missions like Chandrayaan-3, influence and inspire other countries in Asia and beyond to invest in space research and exploration.
As mentioned above, the existing secondary data provides a comprehensive understanding of the Chandrayaan-3 mission's multidimensional impacts. Technologically and economically, it is heart-warming to see the paradigm shift regarding the way space missions are approached by emerging economies. Psychologically, it has given a huge boost to national pride and collective resilience. Sociologically, it has enhanced scientific engagement and unity amongst the youth and the population in general. If we analyse politically, we find that it has significant implications for India's global standing and diplomatic relations. And on a global scale, the success of this mission contributes to the narrative of space exploration becoming more inclusive and diverse. This case study shows the multifaceted nature of Chandrayaan-3's impact but also sets the stage for further research in these domains.

4. Gaps that were found in different studies:
Gap in currently available studies: Economic Impact:
While Patel and Kumar (2023) talks about the economic benefits of cost-efficient space missions, however there is a notable gap in empirical data quantifying the direct and indirect economic impacts of Chandrayaan-3 on India's economy. That means, so far, we do not have specific findings which can provide measurements regarding economic outcomes, like job creation, industrial growth, or educational investments etc.
Gap in currently available studies: Longitudinal Psychological Studies:
The research by Desai and Sharma (2022) provides initial insights regarding the psychological effects of Chandrayaan-3. However, there is a lack of longitudinal studies that track these effects over time. There is a need to have such tracking by way of studies which may show up data regarding change in perception and attitude in long term, after the success of such Chanrayaan-3 mission.

Gap in currently available studies: Regional Sociological Differences:
Rao and Nandan's (2024) study explains the sociological impacts of Chandrayaan-3 in India.

However, as India has diversity in terms of regions and demography. Hence, there is lack of research findings considering such factors, which is required, considering India's diverse socio-cultural fabric.

Gap in currently available studies: Detailed Policy Analysis:
Krishnan and Lee's (2023) work on the geopolitical implications of Chandrayaan-3 talks about general trends in India's international relations. However, there is need to have in-depth studies to get insights on policy changes, diplomatic initiatives etc, which are influenced by the success of this mission.

Gap in currently available studies: Comparative International Analysis:
Work of Thakur and Nguyen (2024) compared the role of emerging space powers in the global arena. However, there is a scarcity of studies which can compare the approach, challenges, and successes of similar missions of other countries with India's Chandrayaan-3. Such comparative analyses may be helpful for in-depth understanding of different strategies in space exploration.

Gap in currently available studies: In-depth Technological Assessments:
The current available work talks good about the technological advancements of Chandrayaan-3 (Nair, 2021; Kapoor & Singh, 2022). However, there is shortage of detailed critical assessments of the technology used, especially in comparison to international standards, including evaluating the reliability, scalability, and potential areas for technological improvements.
Based on above, we find that there are notable gaps and areas where more in-depth research work is needed. The required research work is expected to address economic impact assessments, long-term psychological studies, sociological analysis across different Indian regions, detailed policy and technological assessments, comparative international studies etc. Research work addressing such gaps would be useful to provide holistic and detailed understanding of the mission's multifaceted impacts.
The main objective of the Chandrayaan-3 mission was to have a soft landing on the lunar surface. The mission was having a rover to study the lunar terrain and to gather scientific data, especially near the South Pole of the moon, an area which was not explored by previous missions. Lunar lander and rover were the key components. Lunar lander was equipped with instruments for navigation, communication, and scientific experimentation. Rover's job was to move on the lunar surface, it was having scientific instruments to analyse the lunar soil. This mission used India's own technology, exhibiting India's growing prowess in space technology. Chandrayaan-3 mission took learning from the failure of Chandrayaan-2 mission and it incorporated advanced navigation, propulsion, and communication systems. Chandrayaan-3 mission was known for its cost-effectiveness. The mission exemplifies efficient budget management in space exploration, a significant achievement for our country balancing economic developmental challenges plus the challenges of other priorities and scientific ambition. The success of this mission has an impact on India's international standing as a powerful space exploring nation. The success of this mission has contributed for India's national pride and demonstrates India's capability in high-tech sectors on the global stage. Politically, it is a major event which has enhanced India's diplomatic relations and collaboration in space technology. The mission has positively influenced the Indian collective psyche, inspiring a generation towards science and technology. The mission is an example of resilience, especially after the partial failure of Chandrayaan-2, without losing momentum and motivation; it promoted a culture of innovation and persistence. Chandrayaan-3 plays an important role in global space exploration. It adds to our better understanding of the Moon, particularly the unexplored South Pole region. The mission facilitates more collaboration of different countries in space exploration and sets an example for other countries with emerging space programs. Success of Chandrayaan-3 mission stands as a hallmark of technological achievement, economic efficiency, and socio-politically better scenario for India. It exemplifies how space exploration can be a catalyst for national development, international collaboration, and human aspiration. This case of Chandrayaan-

3 mission helps us in understanding multifaceted impacts and contributions to space exploration and beyond.

The 21st century witnessed renewed interest in lunar exploration. This phase found several countries and private organizations participating in the space race. Chandrayaan-3 mission of India, is part of this global trend, aiming to contribute significant scientific knowledge about the Moon. This mission unfolds against the backdrop of India's unique socio-economic challenges and aspirations, where there has been need to make investments in many areas of priorities. India had to take a balanced approach between economic development and technological advancement and the space mission. The Chandrayaan-3 mission of ISRO represents a strategic investment in science and technology. The Chandrayaan-3 mission is not merely a scientific venture but is a result of historical progress, Indian population's aspirations and the contextual necessities. Today, space exploration of India stands at the intersection of India's ambitious space goals and its broader national aspirations, reflecting a complex interplay of technological innovation, societal influence, and geopolitical strategy. This background forms the essential foundation for understanding the multifaceted nature of the mission and its wide-ranging impacts.

India's Chandrayaan-3 mission was highlighted in terms of technological innovations, especially in terms of its lander and rover design (Nair, 2021; Kapoor & Singh, 2022). These advancements were the result of the direct response to the challenges faced in Chandrayaan-2 mission. This suggests a paradigm shift of 'learning through failure' in ISRO's approach and a 'never say die' mindset, exemplifying resilience and adaptability. The mission's success not only enhances India's lunar exploration strength and potential but also contributes to global space technology. Studies by (Patel & Kumar, 2023) emphasize the cost-effective nature of the Chandrayaan-3 mission. Despite budget constraints, the ISRO could successfully execute a complex lunar mission. This drives the idea that important and complex space exploration is achievable even without huge spending. This also throws light on broader economic strategy, positioning India as a leader in cost-effective space technology. Studies conducted by Desai and Sharma (2022) indicate huge boost in national pride and new interest generated in youth for STEM fields, post-Chandrayaan-3 success. This aligns with Ghosh's (2023) findings on the mission enhancing collective resilience and optimism. Chandrayaan-3 has significantly influenced India's collective psyche, driving a science-positive culture and strengthening national identity. The success of Chandrayaan-3 mission has become a symbol of hope and determination, inspiring societal change and huge positive impact. Studies by Krishnan and Lee (2023) shows that the mission's success has elevated India's status in the international arena, enhancing its geopolitical influence. The mission has enhanced India's diplomatic standing, showcasing its technological prowess. This indicates a shift in global space dynamics, where India has gained prominence. The studies by Thakur and Nguyen (2024) throws insights regarding success of Chandrayaan-3 mission playing role in bringing out a feeling of a democratic and balanced, orderly standing of the countries in area of space exploration, a clear challenge to the traditional space power hierarchy. The mission is an example for other countries which are just in growing and nurturing stage of space programs, showing that strategic investment in space technology can yield substantial global and regional influence.

Success of Chandrayaan-3: Prowess of Technological Ingenuity:

Chandrayaan-3 is known for its low budget project, achieved through efficient engineering and leveraging experiences from previous missions. The mission showcases a range of indigenously developed technologies, including a lunar lander and rover, highlighting India's growing capabilities in space technology. The design incorporates lessons drawn from Chandrayaan-2 mission, having improvements in navigation, propulsion, and communication systems to enhance landing precision and reliability.

Success of Chandrayaan-3 mission: Human Spirit and Motivation exemplified:

The mission's development, following the partial failure of Chandrayaan-2, is a narrative of resilience, reflecting a 'never give up' attitude. Chandrayaan-3 serves as an inspiration, particularly to the youth in India and around the world, demonstrating that ambitious goals are achievable with persistence and hard work. The mission has helped to enhance international collaborations and partnerships, promoting a spirit of global cooperation in space exploration.

Some key people behind success of Chandrayaan-3 mission:
ISRO Chairman S Somnath played a crucial role in the mission's success, implementing a strategy focused on eliminating failures. Project Director P Veeramuthuvel, Deputy Project Director Kalpana K, and Directors Nilesh M. Desai, S Unnikrishnan Nair, and M Sankaran also contributed to the mission's success.

The statements of some of the team leaders after the success of Chandrayaan-3 mission:
One team leader of ISRO said "Team ISRO has been breathing, eating, drinking, Chandrayaan-3 for the last 3-4 years". Just after Chandrayaan-3 was safely place in orbit, ISRO Chairman Dr. Somanath said: "Congratulations India. Chandrayaan-3, in its precise orbit, has begun its journey to the Moon. Health of the spacecraft is normal." Ex ISRO chief K Sivan hailed soft landing of Chandrayaan-3. Prime Minister Sh. Narendra Modi said on Chandrayaan-3's successful landing "This success belongs to all of humanity and it will help moon missions by other countries in the future,"
S. Somanath, Chairman of the Indian Space Research Organisation (ISRO), attributed the success of the Chandrayaan-3 mission to "the result of the hard work of thousands of people in ISRO", the "rigour of the reviews", and "corrective actions taken meticulously." Right from the launch till landing, the process happened flawlessly, as per the timeline. Project Director Veeramuthuvel said "Chandrayaan-3 success owed to the combined effort of entire team". All the teams like, navigation guidance and control team, propulsion team, sensors team and all the mainframe subsystems teams, critical operations review committee etc., worked meticulously, ensuring success to the mission. The culture, the team work, the human effort in ISRO organization is at tremendous level.
Chandrayaan-3 was a follow-on mission to Chandrayaan-2. The partial failure of Chandrayaan-2 happened due to anomalies in the braking system in the module while attempting to land on 7th September 2019, when its lander 'Vikram' crashed on the surface of the Moon. The spacecraft was rebuilt after the Chandrayaan-2 experience.
Team ISRO feels that Chandrayaan-3's success has put more responsibility on them because this success has set the bar so high, and hence similar or more challenging missions will be inspiring the whole ISRO team in the future.

5. Limitations of this case study:
Library research method (George 2008) was used. It relies on secondary data, which might limit the ability to explore certain aspects that haven't been extensively covered in existing literature.

6. Conclusion:
Chandrayaan-3 mission was more than a lunar exploration mission; it was seen as a beacon of hope and a demonstration of what can be achieved when technological innovation is coupled with human determination, in spite of budgetary constraints. This mission did not just aim to expand the human's understanding of the moon but also stands as a symbol of human aspiration, inspiring generations to look beyond the horizon and reach for the stars. This work provides insights about multi-dimensional impact of this mission. Technologically, it marks a significant advancement in lunar exploration showing India's prowess in the field. It sets a precedent for economically cost-effective space missions. The mission has a profound impact on India's societal fabric, enhancing scientific temperament and national pride, a space for further study under psychological impact. Mission's success further repositions India on the global stage, getting a great political mileage, contributing to a more inclusive and diverse space exploration narrative. These findings underscore the Chandrayaan-3 mission's role not just in scientific achievement but in shaping a nation's identity and aspirations.

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Linking HR Responsiveness with Tourism Employee Experiences: A Qualitative Approach

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Abstract

Purpose: The study aims to develop an in-depth understanding of the urban tourism employees' experiences during the recent pandemic in India. It aims to investigate the initiatives by HR to mitigate the adverse impact of the pandemic and also explore the recent HR trends in the tourism industry of the new world order, which have a positive impact on the employee's experiences.

Design/methodology/approach: Multi-study approach was used where qualitative analysis using semi-structured interviews were conducted. Study 1 was done after the second wave of the recent pandemic while Study 2 was conducted after a gap of one year with the professionals working in the tourism industry. The transcripts were analysed using manual coding and NVivo software.

Findings: The findings revealed only negative sentiments harboured by tourism employees during the recent crisis but a bent towards positive was observed after the new initiatives taken by the HR. The thematic analysis for positive and negative experiences have been indicated by themes like abandoned, and empathetic approaches from co-workers, stress, job insecurity, burnout, fear of uncertainty, work-life conflict, reduced compensation, limited stress relief options, and emotional imbalance. The themes for recent trends that have a positively impact on the employees working in the tourism industry have been mentioned in the study.

Originality/value :This study attempts to bridge a prominent gap in the literature by providing a holistic understanding of all aspects of the pandemic and its impact on the employees working in the urban tourism industry and proposes strategic policy interventions required for developing a resilient tourism sector in the coming years.

Keywords: Recent HR trends, urban tourism employees, experiences, qualitative study, India

1. Introduction

The tourism industry is enduring a significant revolution driven by emerging Human Resource (HR) trends. These include technological advancements, employee well-being, agile workforce planning, diversity and inclusion, remote work and flexi-scheduling, data-driven decision-making, upskilling and training. Incorporating these trends is critical and essential to thrive in this competitive world. HR has played a crucial role in helping organizations navigate the pandemic and mitigate its adverse impacts. By adopting a culture of people first and valuing the overall wellbeing (mental, financial, and physical) of the employees, and building a resilient workforce, HR has been able to bring down the stress level of the employees and control burnout in them. The years 2020 and 2021 have been a catastrophic phase for human beings across the globe. It is being characterised as an unprecedented era that encompasses feelings of helplessness and loss of control for humanity. On March 11, 2020, the World Health Organization (WHO, 2020) declared COVID-19 a pandemic, caused by Coronavirus, which later blew up like a wildfire in the rest of the world (Singhal, 2020). This pandemic spread rapidly across Asia and the Pacific region, before becoming a global threat. The worldwide impact of the pandemic on the tourism sector has been devastating (ILO, 2020a). The Asia-Pacific region started experiencing the impact on economies and

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labour markets early on, with the urban tourism bearing the maximum brunt. This sector started to experience a rapid decline in several countries, driven by a major decrease in tourism from China, which constitutes a major share of tourism revenues in many countries. The rapid spread of the virus resulted in the imposition of international travel restrictions, due to which international tourism essentially came to a halt. With the global spread of the virus, the governments-imposed lockdown measures in many countries as well as stay-at-home recommendations, consequentially domestic tourism also took a hit. This adverse impact on the tourism sector of the Asia Pacific region had far-reaching consequences in terms of GDP contributions given the high level of importance of tourism. Asia-Pacific region in 2018, recorded 348 million tourist arrivals worth US$ 442 billion in tourism receipts with an export contribution of 5 percent (ILO, 2020 a, b).

Economic growth in Asia hit rock bottom in 2020, due to the pandemic. This qualifies for the worst growth performance in almost 60 years as per the IMF. The worst hit was Pacific Island countries like Fiji, Vanuatu, and Samoa, where revenues from the tourism sector constitute more than 50 percent of total exports. The business activity in the tourism sector has witnessed a negative impact on all jobs in the sector, with a large number of workers becoming redundant. Millions of workers are facing the risk of sliding into poverty (ILO, 2020b).

This pandemic has not only impacted individuals in particular but also the economic scenario in general by bringing an array of challenges and dilemmas for the organizations, more so in urban tourism (Dangi and Petrick, 2021). The pandemic apart from bringing about a plethora of changes in the lives of individuals has also made organizations revamp their operating styles (WHO, 2020). Organizations are forced to take a tough decisions in terms of retrenchments, salary cuts, and layoffs on one hand, while on the other, they were concerned about employees' health and safety leading to drastic changes in work settings and arrangements (Kumar et al., 2020; Rudolph et al., 2020). The repercussions of this pandemic did have a long-lasting effect on employees' mental health as well (Roy et al., 2020; Staglin, 2020). Studies done by Wang et al. (2020) and Jeong et al. (2020) have urged future researchers to understand the facets that may help in catering to employees' psychological well-being during stressful situations.

The Indian tourism industry has started to show signs of recovery on account of domestic tourism since November 2020, after the decline of the first wave. The state governments and tourism boards were on the path of rebooting the industry after the second wave to reinstate travelers' confidence (Lamba and Mohan, 2021). The need for 'systematic longitudinal studies' to assess the impact of Indian government policies has been emphasized (Dash & Sharma, 2021). There have been numerous learnings from the pandemic. Digital transformation has received widespread adoption, and the world is witnessing a shift from efficient and effective hybrid work model to the metaverse and algorithmic HRM. The year 2022 did show some façade of normality along with challenges for HR and the employees. There has been a shift in priorities and the creation of new avenues of opportunities because of the combined impact of imminent recession, survival crisis due to higher cost of living, and enduring staffing crisis. The present study is an attempt to address this gap realised by scholars and policymakers and highlights how this pandemic has transformed policies and practices.

The present study intends to address four research gaps. Firstly, studies done in the past have discussed various aspects of job demands leading to negative outcomes including employee stress and burnout (Zhang et al., 2020; Giousmpasoglou et al., 2021, Kapoor et al., 2021) or positive outcomes including engagement, work efficiency, support, readiness to change, etc. while overlooking the linkage (Liu et al., 2021; Yacoub and El Hajjar, 2021; Roemer et al., 2021; Pathak and Joshi, 2021). The linkage requires investigation because employees in crises often experience stress and seek resources (individual and social) to reduce stress and enhance psychological well-being. Secondly, although numerous studies have been carried out to understand the human psyche perspectives, both from employees and employers' perspectives (Collings et al., 2021; Achenbach, 2020; Kluger, 2020; Semple and Cherrie, 2020; Trougakos et al., 2020), this study intends to shed light on tourism employees' perception concerning their experiences (both positive and negative). Also specifically, employees with dependents have been considered for the study, so as to comprehend their plight during both waves of the pandemic. Thereafter the HR managers' (tourism sector) role has been investigated, in helping these employees to confront and combat the reality in an emotionally balanced way. Thirdly, previous studies have deliberated upon the quantitative aspect, there is however a paucity of qualitative understanding in the context of employee's (with dependents) perception concerning their experiences (in the tourism sector) during the pandemic. Fourth, and most important contribution of this research lies in highlighting the recent HR trends in the tourism industry, that have contributed towards positive employee experiences. Hence, in alignment with these research gaps, the present study attempts to deliberate on three important questions:

RQ1: What are the positive and negative experiences of working professionals with dependents in the urban tourism during both the waves of the recent pandemic?

RQ2: What are the initiatives taken by HR in the urban tourism during the pandemic?

RQ3: What are the recent HR trends in the tourism industry that have contributed towards positive employee experiences?

The paper is structured as follows. The introduction is followed by the literature review, then the research methodology, and the results and discussion. The study concludes with implications.

2. Literature review

First and second waves of COVID-19 and tourism industry

Millions of the tourism industry's working professionals are struggling for their means of survival as this recent pandemic has driven this industry into an indeterminate state (Adams et al., 2021). As per the study of the National Council of Applied Economic Research, the Indian tourism industry suffered a humongous loss of around 14.5 million jobs during April-June 2020, the period immediately following the announcement of the first lockdown in March 2020 after the first wave had hit in (News18, 2021). A big chunk of the employees had informal jobs which render them more exposed to the negativity arising from COVID-19 (ILO, 2020a). Furthermore, after the first wave, many companies had switched to WFH policy for many of their employees which have restricted business travel; this has had a major impact on the recovery of the tourism industry (Kwok, 2020). The Indian tourism industry has started to show signs of recovery on account of domestic tourism in the months of November 2020, after the decline of the first wave. The state governments and tourism boards are on the path of rebooting the industry after the second wave to reinstate travelers' confidence (Lamba and Mohan, 2021). The need for 'systematic longitudinal studies' to assess the impact of Indian government policies has been emphasised (Dash and Sharma, 2021). The present study is an attempt to address this requirement felt by scholars and policymakers. Large-scale suffering by industry professionals worldwide has strengthened them and many of them have depicted a high level of resilience by diversifying into other industries for earning their livelihoods (Adams et al., 2021).

Employees' experiences and COVID-19

Employee experience is defined as "the employee's holistic perception of the relationship with his/her employing organization derived from all the encounters at touchpoints along the employee's journey" (Plaskoff, 2017, p. 137). Even in a similar cultural setting, individuals may respond differently to a crisis situation. A study done in the Indian context revealed that employees may depict 'fight/yield/accept symptoms' during the crisis (Wang et al., 2016). Thus, emotional well-being influences employees' experiences.

Studies have demonstrated adverse impacts of the COVID-19 on employees' experiences (Collings et al., 2021). Recent studies on urban tourism employees inform the tremendous negative impact of job loss and rising health apprehensions on employee experiences (Carnevale and Hatak, 2020; Ozdemir, 2020; Peterson and DiPietro, 2021; Lim et al., 2023). Loneliness and ambiguity about health and job security, resulting from COVID-19, made employees feel anxious and mentally unstable (Rudolph et al., 2020; Kabra, 2022). The tourism sector depends highly on employee motivation to establish a long-term positive connection with the customers (Peterson and DiPietro, 2021). Motivation levels are influenced by the sense of psychological well-being (Olivares et al., 2020). Lower well-being perceived by tourism employees has negative implications for employee engagement, thereby marring the customer experiences (Peterson and DiPietro, 2021). As the tourism sector is currently under acute distress, its employees need to be calm and optimistic, this would help them in controlling their negative emotions and contributing effectively to the process of recovery of their organization (Pathak and Joshi, 2021)

According to Self-determination Theory (SDT), employees' well-being is influenced by the fulfilment of their psychological needs of competence, autonomy, and relatedness with others (Deci and Ryan, 2014, Reis et al., 2000). A greater sense of competence in an employee shall motivate him/her to endeavour for the attainment of work goals (Gagné and Deci, 2005). During the pandemic, employees' pursuits for the attainment of goals became of paramount relevance due to prevailing ambiguity (Trougakos et al., 2020). Employees' need for autonomy is significantly associated with their health and well-being (Deci and Ryan, 2000; Reis et al., 2000, Sheldon and Kasser, 1995). This association is of more prominence during pandemic times (Trougakos et al., 2020) owing to an enhanced level of health-related anxiety amongst employees. Prior studies have shown that poor work-life balance adversely impacts employees' well-being (Ilies et al., 2007; Rudolph et al., 2020; Gabriel et al., 2020; Palumbo, 2020). This may be attributed to the psychological need for relatedness amongst employees. Person-specific and context-specific factors might enhance or diminish autonomy, competence, and relatedness and thus affect well-being (Reis et al., 2000).

HRM Practices during pandemic

HR department needs to prepare employees for the unforeseen changes emanating from a crisis event. Its focus in such situations should be on retaining extraordinary employees who could contribute effectively towards organizational productivity (Naudé, 2012). The HR department plays a key role in crisis management by providing the necessary care and support systems for the employees' well-being (Dirani et al., 2020). During stressful times, the department must include employees in business continuity and crisis management plans (Dirani et al., 2020). The role of HR during the global financial crisis was critical in the recovery of many organizations; it played a strategic role in organizations' cost reduction and productivity enhancement via "downsizing, reductions in working time, lay-offs, concession bargaining, and related changes in reward systems and working conditions" (Gunnigle et al., 2013).

Adikaram et al. (2021) recommended soft HRM for managing employees during this crisis period using three key HRM bundles: health and safety, cost-saving, employee engagement, and motivation. Plaskoff (2017) advocated a changed method of HRM wherein, employee experience is at the core of people management in an organization. COVID-19 has impacted HR practices, policies, and interventions across various Indian industries (KPMG, 2020).

One of the worst-hit sectors, tourism, demands substantial attention of HR to help firms become resilient by managing their human capital appropriately during these tough times (Pathak and Joshi, 2021, Prayag et al., 2020). Organizational resilience is the function of individual employee resilience since an organization comprises a group of individuals. By instilling positivity and hopefulness in their employees, HR may be able to boost the resilience level of their employees (Tugade and Fredrickson, 2004). Studies reflect the scope for improvement of HR practices in the tourism sector to enhance the positivity amongst its employees; recovery of the sector from the current crisis requires effective employee engagement and employee resilience (Peterson and DiPietro, 2021).

HRM's role in the Indian hotel industry witnessed remarkable expansion, during the pandemic, from a restricted work-life view to a personal life view of employees, strongly supporting the notion of well-being-based HRM which is mutually beneficial for both parties (Agarwal, 2021). The author contended that HRM practices meet employees' intrinsic needs of competence, autonomy, and relatedness. The psychological well-being of employees can be enhanced, during this period, by establishing a culture of 'autonomy, trust, and empathy' during the pandemic (Lee, 2021). Aitken-Fox et al. (2020) revealed the relevance of trust in HRM during the COVID-19 crisis as the enhanced usage of employee surveillance softwares by some organizations depicts a lack of trust, which might harm employees' productivity. Lee et al. (2020) revealed the impact of 'effective leadership' and 'internal crisis communication' on organizational settings during COVID-19 was instrumental in satisfying the employees' fundamental needs for autonomy, competence, and relatedness.

Recent HRM trends

This pandemic has resulted in numerous workplace transformations in the last three years. As things have returned to normal now, organizations are implementing a lot of strategies and policies to ensure that their employees experience a holistic and conducive work environment. HR is making all efforts to ensure the smooth and seamless functioning of the organizations, by strengthening the employee-employer relationship.

HR has now started to bring fresh and new perspectives. All efforts are made to enhance the experience of the employees working in the tourism industry, which includes providing them with flexibility at work, workplace safety, upskilling and reskilling, talent management, etc. HR is focusing on a seamless transition and a collaborative work environment where the voice of every employee is heard. A system of giving feedback, receiving rewards, and recognition further motivates the employees constructively. Another critical factor that HR is now concentrating on is the proper and repetitive communication of the mission and vision of the organization to the employees. This is done to motivate them, to create value, and encourage them to achieve the goals and objectives of the organization. The presence of learning opportunities is another trend that has been a great boon for the industry. Continuous upskilling and upgrading for employees at different levels is implemented in most organizations now. This helps in creating an immersive work culture.

3. Research Methodology

Data collection

A multi-study and longitudinal qualitative approach was implemented for this research where data was collected from professionals working in the tourism sector in India at two different time periods (Study 1 and Study 2), in order to attain a holistic overview of our research questions. Our study is based on a grounded theory approach where purposive sampling was used to recognize the respondents having different professional and academic credentials (see Appendix 1). Participants were approached and informed about the process involved in this research and all the interested participants were requested to give their consent for participation in both the studies. Semi-structured interviews were conducted by two of the researchers themselves in both English and Hindi language as some of the interviewees were more comfortable answering in Hindi. Both the studies were conducted sequentially where data for Study1 data was collected after the second wave (September 2021) of the recent pandemic and for Study2 data was collected after a gap of one year (September 2022). In Study 1, data was collected (RQ1 and RQ2) to explore the positive and negative employee experiences during the pandemic and what initiatives were taken by the HR to mitigate the impact of this crisis. Depending on the comfort level of the participant, interviews were conducted by telephone or face-to-face and this process was continued until theoretical saturation was achieved. The respondents were approached again for the participation in Study 2 where the interviews were conducted to explore (RQ3) the recent HR trends in the tourism industry and their impact on the employees. Suitable date for interviews were taken from the interested respondents who participated in Study1. The interviews were conducted and finally, a total of 36 respondents were included in this research. All the interviews were recorded, and the transcripts were converted from the Hindi language to the English language (for all those respondents who have given the interview in Hindi) with the help of two language experts. Most of the interviews lasted for 45 to 60 minutes and all precautions and ethical standards were followed keeping in mind data biases of both internal and external validity.

Data Analysis

Initially, the recordings were coded into text which was further converted into a transcript by assembling all the responses into one single sheet for all the research questions for Study1 and Study2, Data cleaning was done for all response sheets to exclude all the special characters, spaces, and numeric values from the response sheets. Uniformity of cases was also ensured for the response sheet followed by defining the 'stop words. Finally, these transcripts were imported into NVivo for data analysis. To map the responses with the themes budding from the interviews, a codebook was developed for which the intercoder reliability was established. Group consensus-based approach helped in developing the face validity. Word cloud was created, which helps in obtaining the main matter from the analysis followed by sentiment and thematic analysis using the feature of auto code (Malik et al., 2021). The same data files were also analysed manually, where the transcripts were read many times in order to get familiar with the content (Braun and Clarke, 2006). As suggested by Smith and Beretta (2021), various codes were assigned to the all the relevant data chunks (line by line) for every relevant response. The codes are termed as first-order descriptive concept. Similarities were brought down by creating mutually exclusive concepts. This was followed by generating second order concepts where themes were created with the help of respondent-centric terms, emerging codes and the literature available on the topic. In simple terms the first-order codes were aggregated into second-order codes or themes based on the identified links. Efforts are made to identify the links between the first-order codes, and this is further assisted by the theoretical explanation for the major factors identified. And finally, these second order codes were converted into themes. This method is consistent with the principle of contextualization which pays emphasis on understanding the importance of background (both social and historical) setting in qualitative research (Klein and Myers, 1999). The results obtained from Study1 and Study2 were used for Study3. All these steps were repeated for analysing the data collected for Study3.

4. Results

Study1

The analysis of the transcripts indicated two major thematic categories, namely, positive and adverse experiences of employees working in urban tourism having dependents during the two waves of the recent pandemic.

Positive and negative experiences of employees with dependents working in urban tourism during the pandemic.

For the positive experiences, the word cloud in depicts that 'abandoned' is the most emphasized word by the respondents followed by emotional, mental, adverse, difficult, upskill, empathetic, employer, life, etc. These words facilitated developing the themes with the assistance of thematic analysis. Thematic analysis of RQ 1 (Table 1) revealed that an empathetic approach from co-workers was the only prominent theme that emerged. Most of them mentioned that this pandemic has only negatively impacted the lives of employees working in the urban tourism. However, they mentioned that after wave II, there was a small relief as some of them received partial remuneration and some support from their organizations. The sample quotes of responses for RQ 1 are given in Table 2. The sentiment analysis of RQ1 revealed that most of the respondents had moderately negative and highly negative sentiments for this crisis during the pandemic. This analysis revealed that employees working in urban tourism were badly affected and as compared to other sectors as they had no positive sentiments.

Table 1.
Themes identified for RQ1

S. No.	Themes	Frequency	Percentage
1.1	Empathetic approach	17	9%

Note: All the themes emerging were negative except the one mentioned

Responses for Wave I	Responses for Wave II
Respondent 2: *"In my organization, all of us were asked to leave and no salary was given to us. The only change I could see was that my co-worker was compassionate towards me as he was also going through the same situation. In the time of crisis, when we had no one to earn for our family my co -worker was there to understand me and provided emotional support."* [1.1]	Respondent 2: *"I was contacted by my manager to join back again as the visitors have started arriving but I am still not sure that whether this job will remain with me or not. I am worried about the infection but much happy that I will be able to earn for my family."*
Respondent 20: *"No positive experiences"*	Respondent 20: *"I am happy that I am supposed to join my work again. They have promised that I will get 60 % of my salary and as soon as things are on track we will get full salaries."*

Table 2.
Sample quotes for RQ 1

While for negative experiences, the word cloud depicts that 'stress' is the word that is emphasized most by the respondents in the data collected, followed by falling, burnout, mental, work, life, lowered, mental, limited, emotional, physical, sick, insecurity, uncertainty, fear, imbalance, politics, etc. These words helped us in developing themes using thematic analysis. The thematic analysis for both the waves revealed eight defined themes namely stress (of falling sick) experienced by employees, job insecurity, burnout, fear of uncertainty, work-life conflict, reduced compensation, limited stress relief options, and emotional imbalance. Most of the respondents mentioned that they had no option of working from home like employees working in other sectors had. They were at very high risk since they were in direct contact with the customers and had to serve them in the best possible manner in order to sustain their jobs. Overall, they were not given any kind of medical insurance or assistance by their organization. Table 4 has some instances from the respondents. Sentiment analysis revealed that employees were harbouring very negative to moderately negative sentiments, related to their experiences during both the waves of this pandemic.

S. No.	Themes	Frequency	Percentage
2.1	Stress (of falling sick)	32	16%
2.2	Job insecurity	27	14%
2.3	Concern for dependents	25	13%
2.4	Mental stress and burnout	24	12%
2.5	Fear of uncertainty	20	10%
2.6	Work-life conflict	18	9%
2.7	Lowered compensation and incentives	17	9%
2.8	Limited options to relieve stress	12	6%

Table 3.
Themes identified for RQ2

Note: Only themes having a frequency of more than ten were included

Table 4.
Sample quotes for RQ 2

Responses for Wave I	Responses for Wave II
Respondent 11: *"I was worried about falling sick and there was a lot of stress because three of my peers were asked to leave their jobs. I was worried about my job too as the scenario is getting worst only. I am concerned about my family members, if I get infected by com ing in contact with any infected customer, I will take this virus home and my family members will be at risk"* [2.1, 2.2, 2.3, 2.5]	Respondent 11: *"I am very much insecure about my job. No one is really worried after the lockdown had opened.... people have started coming out of their homes and everyone is planning to go on hill stations, and no one is worried that the virus will spread again. There is so much work here and the staff is just half. Workload has increased badly"* [2.1, 2.2, 2.3, 2.5]
Respondent 17: *"I felt a lot of work pressure, there was no end towork, and I could not spend much time with my family. We like other employees working in the different sectors had no option of working from home. We are in direct contact with our customers and serve them and if we get infected?? Who will earn for my family?? How will my family members survive???"* [2.3, 2.4]	Respondent 17: *"The condition is getting worse day by day. The number of customers is increasing and even after repeated reminders, they are not taking proper precautions.... Risk is increasing day by day and our organizations are not even providing any kind of medical insurance or assistance"* [2.3, 2.4]

Initiatives taken by the HR department to handle this crisis.
The word cloud depicts that 'safety' is the word emphasised most followed by protective, support, training, transparent, well-being, understanding, opportunity, increased, engagement, measures, health, leaders, use, practices, support, financial, technology, trust, etc. This facilitated theme development using thematic analysis. This analysis brought forth prominent themes like (Table 5) implementation of protective measures by employers, enhanced use of technology, safety measures, medical support, financial support, safe and inclusive environment, and consistent HR policies. Organizations needed to take cognizance of the perception, sentiments, and concerns of the employees. The morale was low, and employees were in need of encouragement and confidence. The loss of income, unemployment, and increasing COVID health concerns had severely affected the employees working in the tourism industry. They wanted to be nurtured and reassured by their organizations. Table 6 has some instances from the respondents. The sentiment analysis revealed that the respondents harbored moderately positive sentiments related to initiatives taken by the HR department during the crisis.

Table 5.
Themes identified for RQ3

S. No.	Themes	Frequency	Percentage
3.1	Implementation of protective measures	28	14%
3.2	Enhanced use of technology	25	13%
3.3	Safety measures	22	11%
3.4	Medical support (vaccination drive)	21	11%
3.5	Financial support	20	10%
3.6	Creating a safe and inclusive environment	17	9%
3.7	Creating and communicating consistent HR policies	15	8%

Note: Only themes having a frequency of more than ten were included

Study 2
The word cloud depicts that 'well-being' is the word emphasised most followed by protective, safety, health, flexible, support, technology, training, transparent, well-being, understanding, opportunity, engagement, measures, knowledge, sharing, support, financial, trust, etc. This facilitated theme development using thematic analysis. This analysis brought forth prominent themes which highlighted the recent practices that organizations have implemented post-pandemic - (1) Emphasis on employee well-being: HR departments are now focusing more on the well-being of the employees by organizing well-being programs for their employees, taking different initiatives to provide mental health support, medical support, help them dealing with stress and workload, handling work-life conflict, implementing strategies to engage and recognize employees, etc. (2) Implementation of protective (safety and health)

measures: Strict safety and health measures are taken by the HR departments to protect their employees as well as their customers. Practices such as enhanced cleaning protocols, health screening, emergency response plans, regular distribution of PPE, etc. (3) Enhanced use of technology: The tourism industry has become more tech-savvy and is practicing digital recruitments and onboarding. Organizations are complementing the use of digital HR tools and platforms. There has been a very significant hike in the online booking by the customers. (4) Remote working facilities and flexible scheduling: Many tourism companies have started offering remote working facilities and flexible scheduling whenever and wherever possible in order to retain and attract talent. (5) Diversity and Inclusion: HR departments have started emphasizing more on creating an inclusive work environment for the employees by ensuring a diversified workforce in their organizations. (6) Data Analytics and HR metrics: there has been a rise in leveraging data to reach informed decisions about acquisition of talent, performance management, rewards and recognition, retention, etc. This is also assisting in selective hiring which aims at hiring the right candidate. (7) Upskilling and training: HR departments are emphasizing on presence of learning opportunities, they are now investing more in upskilling programs to support their employees by making them equipped with latest knowledge, techniques, and relevant skills. Training assists them in developing self-managed and effective teams. (8) Environmental sustainability: Many organizations have incorporated sustainable practices into HR policies to survive with the growing call for responsible tourism and eco-friendly travel options. Green HRM practices are given importance. (9) Emphasizing knowledge sharing behavior: Organizations have started focus on building a culture that emphasizes on knowledge sharing among the employees. (10) Promoting and developing positive leadership styles: A shift towards development of positive leadership styles such as authentic leadership, ethical leadership, etc. has been observed in the tourism industry, as these leaders provide motivation, encouragement, assistance to employees and act as role models for them. (11) Emphasizing collaboration: Every employee is treated equally irrespective of their role or designation. The concept of 'every voice in the organization is important' is in practice. (12) Value addition: HR are emphasizing more on making every add value to their work.

5. Discussion

The pandemic had a far-reaching impact on the socio-economic landscape of the world. The flow of international tourists suffered a severe setback, dropping from 76.3% to 30.8% in different parts of the world (Fotiadis, Polyzos and Huan, 2021). According to a KPMG report, the Indian urban tourism and hospitality sector was one of the worst affected. It witnessed the unemployment of 38 million people (The Hindu, 2020). the employee perceptions of the tourism industry and their sentiments were rather negative, vis a vis employee in other sectors (Peterson and DiPietro, 2021). In this sector, even the basic needs of safety, security, and stability were not addressed. Also, with the pandemic entering the next phase, the employee needs were evolving, and organizations needed a more sophisticated approach to address them. The first research question investigates the positive employee (of urban tourism) experiences during the pandemic. The sentiment analysis revealed only negative sentiments harbored by the employees followed by the thematic analysis, which brought forth themes like abandoned, insecure, and empathetic approach from co-workers as being most important for respondents. This indicated that the employees (with dependents) of this sector had no positive experiences as such, with a slight improvement in sentiments after the second wave of the pandemic. These findings are in sync with extant literature and extend the boundaries of knowledge as well. Revisiting SDT, the overall well-being of employees is a fallout of fulfilment of their psychological needs of competence, autonomy, and relatedness with others (Deci and Ryan, 2014, Reis et al., 2000), which is highlighted in the disparate responses received post-pandemic. This situation also resulted in employees' pursuits of their goal attainment gain paramount importance due to the prevailing ambiguity and an enhanced level of health-related anxiety (Trougakos et al., 2020). Prior research has indicated that organizational support to employees during health crisis impacts positive as well as negative emotions of employees (Lee, 2021), which affects their emotional well-being). Also, employee experiences impact their 'satisfaction, engagement, commitment, and

performance' (Plaskoff, 2017).
For negative employee experiences during the crisis. Themes like stress (of falling sick) experienced by employees, job insecurity, concern for dependents, burnout, fear of uncertainty, work-life conflict, reduced compensation, limited stress relief options, and emotional imbalance indicates the trauma experienced by the respondents; and sheds light on the fundamental truth about employee experience, a large percent of the respondents say the crisis has materially affected their daily work lives. Different people have widely varied experiences and perspectives. For instance, the analysis further revealed that women working during this pandemic were experiencing more negative sentiments in terms of stress, burnout, insecurity, and work-life conflict. This gender difference can be explained in terms of women trying very hard to balance work and personal life as compared to men. This enhanced effort is probably the reason for higher stress and burnout. The scientific viewpoint is that during uncertain times the natural human tendency is to flock towards individuals and situations that make them feel safe (Mawson, 2005). The ready availability and tailored support can enable organizations to build employee resilience as well as social capital and affiliation (Malik and Dhar, 2017; Malik, 2018). These findings are also in sync with SDT, which emphasizes the fulfilment of employees' psychological needs of competence, autonomy, and relatedness with other employees' for their overall well-being. We can also draw upon the need-based theories of motivation, and apply them to employee experience management, wherein organizations need to address critical and prominent needs of the employees, taking into account, the individual differences. The fulfilment of these needs will result in employee engagement, well-being, and work effectiveness.
The second research question seeks to develop an understanding of the organizational initiatives which were implemented in response to the pandemic. The thematic analysis revealed prominent themes like protective measures by employers, enhanced use of technology, safety measures, medical support, financial support, safe and inclusive environment, flexible work practices, and consistent HR policies. The findings indicate that tourism employees were harboring rather pessimistic sentiments, particularly with reference to the financial and economic condition as well as future income assurance. Also, the relatively younger and lower-paid female tourism employees are more vulnerable (Tripathi et al., 2023). Some of these negative sentiments were partially mitigated after the second wave of the pandemic as reflected in the word cloud as well as the sentiment analysis. This crisis has resulted in people experiencing unprecedented levels of disruption in their work and personal lives; thus, organizations adopted a holistic approach to manage the employee experience. A Mc Kinsey survey (2020) revealed that responsive organizations tend to have a tangible impact on employees. Satisfied respondents are four times more likely to be engaged and six times more likely to report a positive state of well-being. This is indicative of employee confidence and trust in their organizations' leaders.
The third research questions help in understanding the recent trends in the tourism industry in the transformed work environment which is far more competitive compared to the pre-pandemic times. Emphasis on employee well-being and workplace wellness is the main focus of most of the organizations. HR are able to build a healthy and positive environment in the workplace by helping the employees maintain a balance between personal and work front. The implementation of protective (safety and health) measures is another trend that observed in tourism sector. Security in terms of their job is another critical factor. Enhanced use of technology (for example, the adoption of benefit management, HR analytics and payroll processing using digital HR tools) in the tourism industry has eventually helped in streamlining the HR operations. Processes like online interviews, virtual orientation of the employees, and virtual assessment if needed have also been in practice. Many tourism companies have continued offering remote working facilities and flexible scheduling whenever and wherever possible in order to retain and attract talent. Diversity and inclusion are given great importance in the current scenario. Data Analytics and HR metrics have enabled leveraging data to reach informed decisions about acquisition of talent, performance management, rewards and recognition, retention, etc. Upskilling and training are another trend that has been seen in most organizations now where continuous training and

development of employees at different levels is practiced. This helps in creating an immersive work culture. Many organizations have incorporated sustainable practices into HR policies to survive with the growing call for responsible tourism and eco-friendly travel options. Basically, an inclination towards Green HRM practices is observed. The need of the hour is compassionate leadership and exhibiting deliberate calm and optimism. Organizations can improve the employee experience by shifting from a focus on meeting only health and safety needs to a more targeted and customized approach, recognizing differential needs and perspectives of different employees (Carnevale and Hatak, 2020; Rudolph et al., 2020; Aitken-Fox et al., 2020; Adikaram et al., 2021), in line with SDT. This will help organizations create meaningful impact now and well into the future.

Theoretical implications

There is widespread recognition of the concept of volatile, uncertain, complex, and ambiguous (VUCA) environments (Schoemaker et al., 2018; Van Tulder et al., 2019). However, this idea has been given further fillip due to the health and economic crises as a consequence of the pandemic. The recent crisis has revealed extraordinary vulnerabilities brought to the fore due to widespread global uncertainty in the tourism sector, with managers needing to manage complex global supply chains, unpredictable geopolitical relationships, and volatile financial markets. This uncertainty sets an important boundary condition in understanding the efficacy of existing theories like SDT (e.g., Brewster et al., 2016; Cooke, 2018; Cooke et al., 2020). Thus, future research can explore new avenues of managing global urban tourism-related uncertainty and contribute to answering macro questions like contextual leadership, collaboration under stressful conditions, and health and safety management.

The current pandemic has revealed new ways that organizational work can be accomplished, encouraging theorists to rethink how multinational enterprises can deploy global teams (Adamovic, 2018), using virtual collaboration and international assignments (Haslberger et al., 2013; Hippler et al., 2014). Finally, future researchers can explore the possibility of tourism enterprise resilience being the key performance indicator rather than just monetary performance. This resilience is the ability of an organization to respond to shock events (Branzei and Abdelnour, 2010; De Cieri and Dowling, 2012) and large-scale disasters like the global pandemic. This crisis stressed the importance of building this enterprise resilience and drives home the importance of developing organizations that actively contribute to environmental sustainability.

Practical implications

HR has played a crucial role in helping organizations navigate the pandemic and mitigate its adverse impacts. By adopting a culture of people first and valuing the overall wellbeing (mental, financial, and physical) of the employees, and building a resilient workforce, HR has been able to bring down the stress level of the employees.

Having flat and egalitarian organizations:

Employee experiences can be addressed in a targeted and dynamic way using listening techniques, advanced analytics, behavioral science, and other technologies. Support response can be thus customized creating an overall feeling of well-being and cohesion.

The tourism industry, even in normal circumstances is associated with a wide range of risks (Chew and Jahari, 2014; Ross, 2005; Deery and Jago, 2009). Crises of any type evoke anxiety and fear, whereas tourism is associated with relaxation and enjoyment. Thus, the lessons learned, provide pertinent indicators for urban tourism and hospitality organizations along with governments to go in for some strategic planning for uncertain times so as to ensure the continuation of employability in this sector (Santana et al., 2003). This requires definitive proactive management measures for crises situations so as to mitigate negative impacts and provide an impetus for the future (UNWTO, 2020). Future policy interventions need to be in line with Sustainable Development Goals (UNSDG, 2018), so as to strengthen the economic resilience of the sector. The tourism policy details need to strengthen the sector's linkages with other sectors, constituting its supply chain, so as to adopt an integrated approach for local sourcing of people and products.

The policy details also need to address income and social inequalities, safeguarding the well-being of urban employees, especially of the vulnerable groups and informal, unregistered workforce. This may also call for labor market regulatory enforcement and collaboration with the private sector. Another major recommendation is concerted policy action for investing in upskilling and reskilling of urban tourism employees. This will enhance their employability potential.

The HR function of tourism organizations needs to evolve and grow in several ways in terms of policy design and implementation. First, organizations can look at creating a central crisis command center, which can perform a critical role in overseeing any such future occurrences and have well-defined emergency response protocols. It can ensure coordinated response efforts to help organizations recover. Second, the HR function/ organizations need to design an analytics-based dashboard, to have a centralised repository of employees' health information, to be updated regularly.

Third, organizations are in the process of moving from responding to the crisis to thriving in the new normal. Hence there exists an opportunity to explore new work designs, organizational structures, and team collaboration models, i.e. developing an adaptable organization capable of harnessing an adequately networked structure of human resilience. Insights from organizational analytics can be leveraged to harness formal and informal networks, experiment with cross-functional teams to achieve greater collaboration and efficiency.

6. Conclusions

The findings of the study clearly brought to light that HR practices in tourism and hospitality organizations have room for significant revision so as to improve the underlying sentiments of tourism employees.

HR has immense opportunities in the coming times but not without obstacles. For taking on these challenges, the HR needs to prioritize their own well-being first and become resilient and agile. They now need to work in collaboration with the other departments to embrace a holistic perspective. The needs of the employees need to assume priority along with their empowerment, so as to drive the strategic impact via people.

A pandemic like COVID-19 has had an enormous impact on urban tourism and hospitality organizations at the global level. Although there have been prior studies on various aspects of HRM related to crisis and recovery (Farndale, et al., 2019; Kim, 2020; Premeaux and Breaux, 2007; Varma, 2020; Wang. et al., 2009; Wooten and James, 2008). However, this literature is rather incomprehensive. This study attempts to bridge this gap in the literature by providing a holistic understanding of how this pandemic had an impact on urban tourism employees. It also explores the role of the HR function in crisis and recovery in a more focused manner.

The current crisis has laid the responsibility on the HR function for assessing and contributing to a multi-faceted response that embeds an organization's driving values, and societal impact with a clear focus on the well-being of employees, other stakeholders, and the community at large. Strategies that are deployed for business continuation also need to address the need for psychological resilience of employees. It also calls upon government policy interventions with sustainable tourism policies, so as to set the stage for developing resilient and self-sustaining tourism organizations (Alberini, 2021)

The organizations will also need to think strategically about the crisis implications followed by the process of recovery in the changing environment. HRM will be a critical element for organizational continuity and its recovery. Alterations in work design and practices may call upon HR for developing and implementing agile practices and strategies for this sector. These changes may include technology-based solutions, flexible work designs, new performance management approaches, and altering the overall employee experience.

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Digital Economy and FinTech in Facilitating Financial Inclusion in Rural India

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Abstract

Purpose: This research focuses on to identify the role of Fintech in digital economy and financial inclusion in India. The descriptive and exploratory research design were used in the study to frame out the structured questionnaire to collect the primary responses from rural areas of different cities of Delhi-NCR and UP West. There were total 530 responses finalized for the analysis purpose. The higher order structural equation modelling was performed to test the hypotheses and validate the measurement model. The findings of the research explain the mediating role of fintech in digital economy and financial inclusion. The mediating effect of fintech and total effect of each variable on other variable were found significant. This study concludes the role of technology in finance is required and significant in order to enhance the financial inclusion in the country. Policy makers and industrialist can make the policies to upliftment of Fintech for the exponential growth of digital economy on financial inclusion. This study is helpful to make various decisions for financial industry and helps in growing the technology and digital economy in the country.

Keywords: Financial Inclusion (FI), FinTech, Digital Economy, Technology Model

1. Introduction

The service sector has driven India's economic progress for decades. Lack of access to financial services, particularly in remote areas, is a major problem in India notwithstanding this progress. The Indian government and financial institutions have increasingly looked to industry 5.0 and FinTech solutions as a means to combat these issues. The IoT, big data, and AI are just a few examples of the cutting-edge technologies that will be incorporated into traditional manufacturing processes as part of Industry 5.0, the next stage in the evolution of manufacturing. FinTech is the term for the financial industry's adoption of technology to create new and improved financial products and services.

Financial technology (FinTech) leaders in India including Paytm, PhonePe, Google Pay, and MobiKwik have been instrumental in expanding access to banking services across the country, especially in rural areas. Digital payment solutions provided by these businesses, such as the Unified Payment Interface (UPI), mobile banking, and biometric payment systems, have been crucial in expanding access to banking services among India's rural poor.

However, the success of digital financial inclusion depends on several factors, including user awareness, perceived utility (PU), perceived usefulness (PUF), interpersonal impact, external influence, knowledge and experience in the operation of robots, financial inclusion via digital technology (FID), digital economy business models (DEBM), user value proposition (UVP), intention to use, attitude, and perceptions of digital wallets (like Paytm, PhonePe, Google Pay, and MobiKwik's),

Rural India has long faced financial exclusion, limiting economic growth and social development. This study seeks to investigate how digital economy tools and FinTech innovations can bridge this gap. The paper will examine user awareness, perceived utility,

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perceived usefulness, interpersonal impact, external influence, knowledge and experience in robot operation, FID, DEBM, UVP, intention to use, attitude, and perceptions of rural Indian digital wallet, UPI, mobile banking, and biometric payment system users. To comprehend the topic, the study will use mixed approaches, including qualitative and quantitative methods.

This work contributes to financial inclusion and digital technology literature by examining rural India's digital financial inclusion success factors.

This paper's focus is on the role that Industry 5.0 and financial technology (FinTech) play in bringing digital financial services to India's rural areas. This study will analyse the impact that major FinTech firms like Paytm, PhonePe, Google Pay, and MobiKwik have had on bringing banking to undeserved areas. The paper will also address the obstacles these businesses encounter in their pursuit of financial inclusion in rural areas, as well as the possible solutions to those obstacles. This study's findings may have significant consequences for policymakers, financial institutions, and other stakeholders interested in fostering financial inclusion in developing nations. The study aims to address an unexplored area by utilising a novel conceptual framework, specifically how to assess Industry 5.0's impact on industrial processes and the potential for FI. How to examine Industry 5.0 may enable novel financial solutions for rural FI? To examine Fin Tech's role in rural digital financial inclusion and access. How to measure the levels of user awareness, perceived utility, perceived usefulness, intention to use, attitudes, and perceptions related to digital wallets, UPI, Mobile banking, and Biometric payment systems in rural areas of India.

2. Literature Review & Theoretical Background

User awareness and its impact on technology adoption and utilization have been examined by (Wu & Wang, 2006). Access to financial services is limited, particularly in rural areas. Researchers discovered a crucial link between user awareness and the acceptance and usage of technology. Additionally, Arora & Aggarwal, (2018) identified that user awareness can be influenced by factors such as media coverage, word-of-mouth, and personal experience with the technology. Davis (1989)studied the idea of perceived usefulness has been linked to technological uptake and use. Davis found that individuals' perception of usefulness directly affects their adoption and utilization of technology. (Venkatesh et al., 2003) noted that simplicity of use, compatibility with current systems, and perceived costs and advantages affect PUF. PUF, as defined by Davis (1989), is the degree to which a person anticipates that the use of a certain technological tool would improve their efficiency at work. Interpersonal impact, another aspect of technology, has been subject to investigation. (Katz & Rice, 2002) found that the impact of technology on interpersonal connections can be varied. It can either promote communication and cooperation, as demonstrated by (Nie et al., 2008), or isolate individuals and limit face-to-face interaction. External influences, including Technology adoption and use are influenced by societal norms and media attention (Rogers, 2003). User awareness and perception of technology can be shaped by media coverage and societal norms. Knowledge and experience in robot operation also play a crucial role. (Arora & Aggarwal (2018) discovered that individuals who have practical experience and theoretical understanding of robotic technology exhibit a higher inclination towards learning and utilizing it. Financial Inclusion via Digital Technology (FID) utilizes mobile banking and e-wallets to provide financial services to underprivileged populations. The World Bank has substantiated the effectiveness of FID in enhancing financial inclusion and fostering economic growth (Appaya, 2021). Digital Economy Business Models (DEBM), as suggested by (Brynjolfsson & McAfee, 2014), have the potential to disrupt established businesses while promoting innovation and entrepreneurial endeavors. The Unique Value Proposition (UVP) of a product or service is a crucial factor in adoption and usage. (Osterwalder et al., 2014) conducted extensive research showing that a strong UVP significantly enhances the adoption and usage of products and services. Adoption and usage of technology are greatly influenced by people's anticipation of benefiting from it. Venkatesh et al. (2003) found that technology adoption and usage are strongly correlated with INT_USE. PU in light of digital wallets refers to consumers' beliefs about the extent to which using a digital wallet improves convenience, security, and efficiency. PEU, in contrast, pertains to consumers' perception of how easy it is to utilize a digital wallet.

2.1 Theoretical Perspectives related to Attitude and perceptions for the use of digital wallets. Digital wallet adoption is dependent on attitudes. The variables related to attitudes in this context have been studied using TAM, UTAUT, and TRA.

The TAM was established by Davis in 1989 and is a widely used paradigm for assessing technological adoption and use. It emphasizes the importance of users' attitudes and intentions, with a specific focus on perceived utility and accessibility (Davis, 1989). When considering digital wallets, PU refers to users' belief advantages of utilizing a digital wallet, such as convenience, security, and efficiency. However, PEU is about consumers' perception of a digital wallet's simplicity and usability.

Venkatesh et al. (2003) introduced the UTAUT as a comprehensive framework for technological adoption and use. UTAUT incorporates various models and theories. The TAM takes into account four key dimensions that influence users' attitudes and intentions towards technology use. These dimensions are PE, EE, SI, and FF. When considering digital wallets, performance expectancy relates to users' belief in the ability of a digital wallet to facilitate easy and quick transactions. Effort expectancy, on the other hand, pertains to users' perception of the simplicity and ease of using a digital wallet.

TRA has been widely utilized to understand and predict human behavior in various contexts. TRA suggests that attitudes and subjective norms play a major part in assessing a person's purpose to do something(Fishbein & Ajzen, 1975). In terms of digital wallets, attitudes encompass an overall evaluation of the usefulness of using a digital wallet, while subjective norms encompass the perceived societal pressure to use a digital wallet.

In conclusion, users' attitudes and perceptions of digital wallets are significant factors influencing their adoption and use. Theoretical models and frameworks such as TAM, UTAUT, and TRA can provide insights into these aspects. Understanding these factors can assist service providers in developing and deploying user-friendly digital wallets that meet consumers' needs and expectations.

While the study emphasizes the potential of Industry 5.0 and FinTech in boosting financial inclusion in semi-urban India. Apparently, research is lacking on the constraints and challenges faced by rural Indians in adopting digital financial services. Additional research might look into the elements that influence rural Indians' access to and use of FinTech solutions, such as literacy levels, digital skills, technological trust, and cultural norms. A comparison investigation of the effectiveness of various FinTech models and their influence on eliminating financial exclusion in rural areas would also be beneficial to the study.

Hypotheses:

H1: The Digital economy has a significant impact on FI.

H2: Fintech has meaningful association with the Digital economy.

H3: Fintech mediate Digital economy and financial inclusion.

3. Research Methodology

The present study focuses on the relationship between the Fintech, Digital Economy and Financial Inclusion. In this research, descriptive and exploratory research design were used. The study employed stratified random sampling, which divided the population into categories according to their location and demographic and socio-economic characteristics. Every stratum in the study, including specific areas of UP West rural regions and Delhi-NCR and certain demographic categories, was adequately reflected in the sample selection.

This sampling technique benefits the study as it enabled them to accurately evaluate digital economy and FinTech adoption habits in rural India despite significant variations in technology accessibility and general education levels as well. The methodology implemented by this method allowed researchers to detect unique implementation obstacles and market potentials within each member segment. The structured questionnaire was prepared to collect the primary responses from respondents of rural cities of UP west. After the data collection, demographic details were analyzed followed by measurement model and structural equation modelling (SEM) performed using SMART-PLS 4. In the measurement model, confirmatory factor analysis (CFA) was performed and analyzed the internal strength of the model including, reliability and validity of the questionnaire. Later on, SEM was performed to test the hypotheses.

Table 1.
sample characteristics

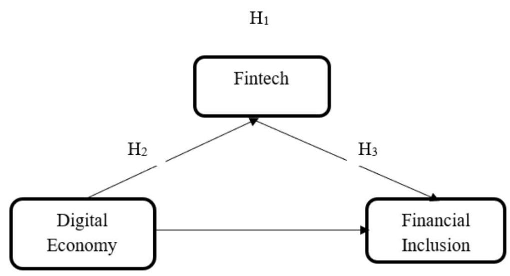

Figure 1.
Proposed Model

Source: Author's Presentation

Sample size and distribution
Rural areas of UP west and Delhi-NCR has been considered for the study. The total population of selected cities as Ghaziabad (1,729,000), Faridabad (1,809,733), Noida (1,648,115) and Greater Noida (102,054) as per the census 2011. The data has been collected from mentioned cities. The sample size distribution was based on the following formula:

$$n = \frac{N}{1+N\,(e)^2}$$

In this formula, n = sample size, N = population size, e = level of precision. The level of significance was 5% therefore, p = 0.05. The suggested sample size for this research was 385 which was calculated from the above formula. The questionnaire was circulated among people of rural areas of such cities and got the total responses 530. In table 1, the city wise distribution is mentioned.

Table 1.
Area-Wise Sampling Detail

Place	Literacy Ratio (2011)	Residents	Estimation	Representatives
Ghaziabad	85.05%	1,729,000	1,729,000/5,288,902 * 530	173
Faridabad	81.70%	1,809,733	1,809,733/5,288,902 * 530	181
Noida	68.14%	1,648,115	1,648,115/5,288,902 * 530	165
Gr. Noida	86.47%	102,054	102,054/5,288,902 * 530	11
Total		**5,288,902**		**530**

Source: Author's own representation

4. Data Analysis, Results and Discussions

Table 2.
Demographic Profile

Variables	Frequency	Percentage (%)
Gender		
Male	345	65
Female	185	35
Age		
Under 30 years	143	27
Between 30 to 45 years	239	45
Between 45 to 55 years	85	16
Above 55 years	63	12
Education		
Upto secondary	58	11
Senior secondary	43	8
Graduation	279	53
Post-graduation	137	26
Professional/Doctorate	13	2
Occupation		
Government Job	76	15
Private Sector Job	281	53
Business	133	25
Self-Employed	22	4
Student	18	3
Annual Income		
Up to Rs. 5 Lakh	458	86
Between Rs. 5-10 Lakh	50	9
Between Rs. 10-15 Lakh	12	3
More than Rs. 15 Lakh	10	2

Source: Author's own representation

This study incorporates a higher order model consisting of twelve first-order variables, namely Business model (BM), Customer Value Proposition (CVP), Awareness (AWE), Infrastructure (INFRA), Digital Financial Inclusion (DFI), Perceived Ease of Use (PEU), Perceived Usefulness (PU), Intention to Use (INTEN), Familiarity with the robots (FAM), Attitude (ATT), External Influence (EXT_INF), and Internal Influence (INT_INF). There are also two second-order hidden variables, DE and Fintech, making a total of 47 variables that can be seen.

The concept of the digital economy (DE) is widely recognized as a ubiquitous, multidimensional, interactive, and constantly evolving notion (Bukht & Heeks, 2018; McAfee & Brynjolfsson, 2018; Zhao et al., 2015). Nonetheless, the literature makes clear that there is no consensus on a clear and concrete concept of DE, nor are there widely accepted standard theoretical measurements. Consequently, this proposed paradigm defines DE is feasible, sustainable, and cost-effective, using technology to improve supply side and stakeholder participation (Barefoot et al., 2018). Four first-order variables characterize DE: the business model (BM), which considers the value proposition, value delivery, value creation, value communication, and value capture (ABDELKAFI et al., 2013); the availability of payment infrastructure, which is a safe, inexpensive, and user-friendly transactional interface that enables customers to send or receive payments, store information digitally, and connect devices through contemporary digital channels; and the level of digitalization of the economy. Another second-order construct in the model is artificial intelligence, which is supported by extensive literature review. Various studies support the reflective nature of the first-order constructs: PUF and PEU (Bhattacherjee, 2000; Davis, 1989), external influence and interpersonal influence (Belanche et al., 2019; Bhattacherjee, 2000), attitude (Bhattacherjee, 2000; Taylor & Todd, 1995), intention to use (Bhattacherjee, 2000; Mathieson, 1991), and in the field of artificial intelligence, reflective models include things like prior experience with robots (Casaló et al., 2008; Flavián et al., 2006).

Measurement Model

Smart PLS 4's CFA confirmed the measurement model. In the measurement model, three constructs viz, Digital Economy (DE), Fintech and Financial Inclusion (FI) were considered. DE has been considered as reflective-formative model, whereas Fintech and FI are reflective-reflective model.

Convergent and discriminant validity have assessed scale reliability for reflective constructs. In order to assess the CV, CR values, which include α and rho, and AVE were examined. Bagozzi & Yi (1988) suggested that a CR value of at least 0.70 and an AVE value of at least 0.50 are considered ideal (Hair et al., 2019). Furthermore, α should be equal to or higher than 0.70 (Hair et al., 2019). The Heterotrait-monotrait ratio (HTMT) test and the Fornell-Larcker criteria were used to assess discriminant validity.

For formative constructs, the various parameters are there viz. redundancy analysis, the value of r should $\leq$ 0.7; multi collinearity or VIF value which should be $\leq$ 3 shows no collinearity, but in any case, it should not be greater than 5 which shows there is multi collinearity; and these formative constructs should be significant to latent variable (Hair et al., 2019).

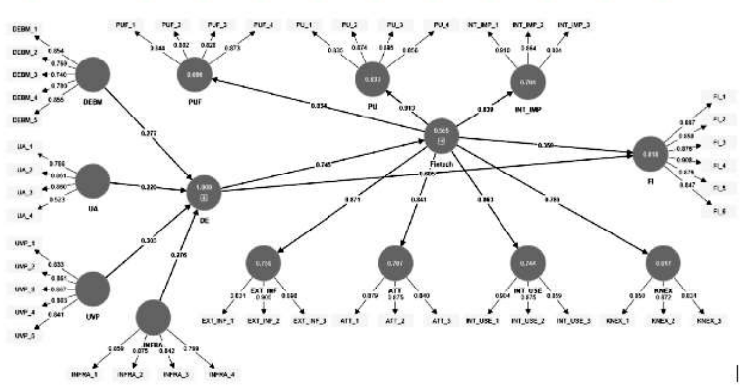

Figure 1.
Measurement Model

Internal Consistency

Reliability and Convergent Validity

Table 3 provides evidence of internal consistency and convergent validity, as indicated by loading values of each indicator with its latent variable that are equal to or greater than 0.708. In only one statement of awareness has the loading value 0.518 but it can be retained as value of alpha and AVE are satisfactory. The value of Cronbach alpha and rho explain internal consistency reliability, which is found satisfactory. The model also satisfies the criteria of convergent validity as AVE values are $\geq$ 0.5.

Table 3.
Internal Consistency and Convergent Validity

Variables	α	rho_a	rho_c	AVE
ATT	0.832	0.836	0.899	0.748
DE	0.955	0.959	0.960	0.574
DEBM	0.860	0.867	0.899	0.642
EXT_INF	0.852	0.856	0.910	0.773
FI	0.939	0.941	0.952	0.767
Fintech	0.961	0.963	0.964	0.543
INFRA	0.865	0.868	0.908	0.713
INT_IMP	0.823	0.831	0.895	0.740
INT_USE	0.854	0.857	0.911	0.773
KNEX	0.810	0.814	0.887	0.724
PU	0.888	0.889	0.923	0.749
PUF	0.880	0.884	0.917	0.735
UA	0.760	0.803	0.849	0.593
UVP	0.896	0.898	0.924	0.707

Source: Author's own representation

Discriminant Validity

To test the discriminant validity of the measurement model, the HTMT values of reflective constructs should preferably be less than 0.85, while values up to 0.90 may be acceptable in certain cases. Table 6 shows discriminant validity exists in the model as values are < 0.90. Another parameter is Fornell-Larcker test, shows in table 7, which also explains the discriminant validity, the values of AVE > MSV. In the results, the Fornell-Larcker criteria also satisfies the condition of discriminant validity (Hair et al., 2019).

Measurement Model (Manual Calculation-Higher order constructs)

Because the measuring model used in this work is of higher order, higher-order constructs cannot be analyzed by using smart-pls because Smart-PLS measure the higher-order constructs as the latent variable and it calculates the values on the basis of items are in the construct. Therefore, the manual calculation of higher-order reflective construct will be considered (Sarstedt et al., 2019).

The composite reliability is computed as follows:

$$\rho C = \frac{\left(\sum_{i=1}^{M} l_i\right)^2}{\left(\Sigma_{i=1}^{M} l_i\right)^2 + \Sigma_{i=1}^{m} var\,(e_i)}$$

$$\text{Cronbach's } \alpha = \frac{M \cdot \bar{r}}{(1+(M-1)\cdot \bar{r}}$$

The symbol r shows the average connection between the lower-order components, while M shows how many lower-order components there are in total. The calculated value of α coefficient is 0.936. Additionally, the manually computed AVE value is 0.715, which exceeds the specified cut-off value. It can be calculated by considering average square root of beta values of each lower-order constructs viz. ATT, EXT_INF, FAM, INTEN, INT_INF, PEU and PU with AI, which is a higher-order reflecting system.

Dijkstra & Henseler (2015) were proposed methods to compute the reliability metric pa, ie.

$$\rho_A = (\hat{w}'\hat{w})^2 \frac{\hat{w}'(S - diag\,(S))\hat{w}}{\hat{w}'(\hat{w}\hat{w}' - diag\,(\hat{w}\hat{w}'))\hat{w}}$$

The predicted weight vector of the latent variable, designated as w , is calculated using the indications that are directly related to the latent variable. In this calculation, the empirical covariance matrix of these indicators, indicated as S, is used. The weight estimates w is computed in the context of PLS-SEM to establish the relationship between the lower-order and higher-order components, hence tailoring the computation to reflective-reflective type (and formative-reflective type) higher-order constructs. Using the ratings of the latent variables of the lower-order components, the empirical covariance matrix S is constructed. This formula yields a value of 0.942. Because of this, the measuring approach has enough reliability and validity for both primary and secondary outcomes (Sarstedt et al., 2019).

Structural Model

The second phase involves dissecting the model's framework. The structural model is useful for analyzing data and testing hypotheses about the constructs. In this step, formative-reflective model and mediation effect will be analyzed.

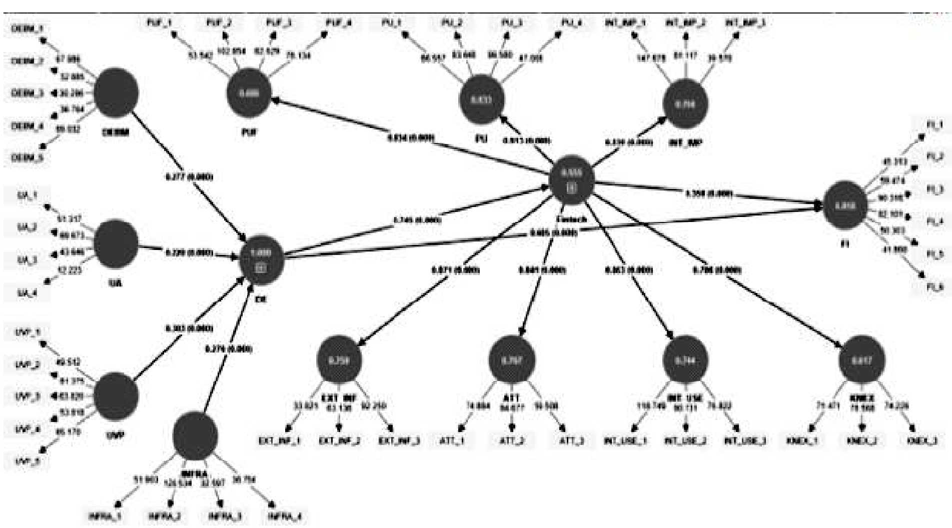

Figure 3.
Structural Equation Modelling using Smart-PLS

The initial phase is to examine the direct impact of the DE on FI and the impact of the DE on Fintech. At the 5% level of significance, the data show that DE has a major influence on financial inclusion and also on Fintech. Therefore, H1 and H2 are rejected and it can be summarized that DE has the significant impact on FI

Table 4.
Mediation effect among DE, Fintech and FI by showing hypothesis P values i.e., significant

Special Indirect Effect	**(O)**	**(M)**	**(STDEV)**	**T statistics (|O/STDEV|)**	**P values**
DE -> Fintech -> FI	0.267	0.266	0.033	8.195	0.000

Source: Author's own representation

Table 4 presented in the study demonstrates the presence of a significant mediating effect among DE, Fintech, and FI. This finding suggests that Fintech acts as a mediator between DE and FI. Studying how DE (the dependent variable) affects FI (the independent variable) is essential for this investigation. R squared is also used to quantify how much of a given independent variable's variance can be accounted for by the dependent variable. In particular, the study says that FI has an R-square value of 0.818 and Fintech has an R-square value of

0.555. This shows how much of each variable's variation is explained by the independent variable DE. The 5% level of significance is used to figure out how important this connection is from a statistical point of view.

Table 5.
Total Effect

Path Coefficients/Total Effect	(O)	(M)	(STDEV)	T statistics (|O/STDEV|)	P values
DEBM -> DE	0.277	0.277	0.005	53.004	0.000
INFRA -> DE	0.276	0.276	0.007	37.132	0.000
UA -> DE	0.22	0.22	0.005	42.238	0.000
UVP -> DE	0.303	0.303	0.006	48.791	0.000

Source: Author's own representation

The next step was to run indirect effect having mediating variable i.e., Fintech (Baron & Kenny, 1986). The results indicate the significant impact of mediating variable on dependent variable. It means fintech has significant impact between digital economy and financial inclusion. Table 5 shows the special indirect effect among DE, Fintech and FI. It explains the partial mediating effect of artificial intelligence on financial inclusion. Partial mediating effect refers to the fact that although DE had a substantial influence on FI, Fintech also had a significant effect on FI as a mediating variable. Therefore, it can be summarized Fintech has played the partial mediating role between DE and FI.

5. Conclusion

The Research findings highlight the pivotal role of the digital economy and (Financial Technology) FinTech innovations in bridging financial inclusion gaps in rural India. Research analyzes three districts from UP West combined with the four cities of Ghaziabad and Faridabad and Noida and Greater Noida in Delhi-NCR. A total of 530 participants participated in the study, which reveals the key elements that determine financial inclusion.

The collected data demonstrates varying levels of literacy and technology awareness throughout the regions since mobile banking along with digital payment platforms have started to gain popularity. The usage of digital financial products among people 30 years or younger stands out as a main study result. Higher numbers of male respondents adopt financial products more than females therefore it is essential to concentrate upon empowering female members of rural financial systems.

Digital wallets together with micro lending platforms operate as part of a system that boosts service accessibility and minimizes transaction fees for those who are financially marginalized. Digital literacy creates difficulties since older demographics resist change while the number of available internet connections remains limited.

The research presents evidence that rural financial inclusion in India can undergo significant transformation through digital economic and FinTech technologies. Stakeholders along with policymakers need to spend money on digital infrastructure as well as financial literacy programs and inclusive FinTech solutions to guarantee equitable access to financial services and economic growth and decrease economic inequalities between urban and rural populations.

Theoretical Implications

Firstly, it underscores the transformative potential of digital technologies and FinTech in addressing longstanding issues of financial exclusion in rural areas. By highlighting the positive impact of these innovations on financial inclusion, the study provides a theoretical framework for policymakers, economists, and researchers to explore similar interventions in other regions grappling with similar challenges.

Secondly, the research sheds light on the importance of adapting global financial concepts and technologies to suit the unique socio-economic context of rural India. This adaptation is crucial for the successful implementation of inclusive financial strategies, as a one-size-fits-all approach may not be effective in diverse, culturally rich environments.

Furthermore, the study encourages a deeper examination of the role of government policies and regulatory frameworks in promoting digital financial inclusion. Theoretical discussions emerging from this research could guide governments and financial institutions worldwide in designing policies that foster inclusive growth through technology-driven financial services.

In sum, the research on the role of digital economy and FinTech in rural Indian financial inclusion enriches the theoretical discourse on technology's impact on financial systems, providing valuable insights that can inform strategies for financial inclusion globally.

Social & Managerial Implications

Financial service providers may play an important part in this transformation by developing successful FinTech solutions that are tailored to the unique demands and challenges of rural Indians. Further study, taking into account aspects such as digital literacy, digital skills, technical trust, and cultural norms, can aid in this process. To increase the acceptance of digital financial services, financial service providers can change their marketing methods and education programmes to better address the barriers and difficulties to adoption. Finally, assessing the efficacy of various FinTech models in promoting financial inclusion in rural areas can aid in identifying the most effective techniques and facilitating their scaling up, so contributing to a more equal and sustainable future for all.

6. Future Scope

Future studies should investigate how blockchain technology and artificial intelligence can help improve rural financial access and understand how these technologies affect various regions as well as the permanent economic impact of digital financial transformation. Academic investigations need to explore gender-based obstacles in monetary inclusion as well as evaluate educational financial awareness initiatives together with approaches that combine FinTech providers with financial institutions and public officials to boost digital money service quality.

7. Limitations

During our investigation, we discovered some crucial findings that are both practical and theoretically relevant, but we also identified certain limitations. The research report solely examines how Industry 5.0 and FinTech affect financial inclusion in rural India and cannot be applied elsewhere. The study's limited sample size, which primarily interviewed rural Indians, may not represent the total rural population, limiting generalizability. The absence of a control or comparison group may also hinder cause-effect interactions. Finally, using only interviews and Smart PLS software may reduce the research's validity and reliability.

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Employee Well-Being an Outcome of Workplace Sprituality: Mediating Role of Artificial & Emotional Intelligence with Job Satisfaction

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Abstract

Purpose: Workplace spirituality (WPS) has gained increasing attention for its potential impact on organizational outcomes, particularly in the educational sector. This study aims to investigate the influence of WPS on Employee Well-Being (EWB), with Job Satisfaction (JS) and Artificial & Emotional Intelligence (AI & EI) as mediators, focusing on educational institutions in the Delhi NCR region. A quantitative approach was employed, collecting data from a sample of 604 employees. SEM was performed using SmartPLS 4.0 to analyze both direct and indirect relationships between the variables.

It was found that Workplace Spirituality significantly boosts Employee Well-Being, resulting in higher morale and reduced stress. It also positively impacts Job Satisfaction and AI & EI, which further enhance well-being. This leads to a motivated and emotionally resilient workforce, promoting a healthier work environment. Both Job Satisfaction and AI & EI play a key role in strengthening the link between Workplace Spirituality and Employee Well-Being.

The originality of this study lies in its unique exploration of the combined roles of WPS, AI & EI, and Employee Well-Being within an educational context, an area with limited prior research. The study adds value by using SmartPLS 4.0 to analyze the complex relationships between these factors, providing novel insights for improving employee well-being through workplace spirituality and emotional intelligence initiatives.

Keywords: Artificial Intelligence, Emotional Intelligence, Workplace Spirituality, Employee Wellbeing, Structural Equation Modeling

1. Introduction

Workplace spirituality has become an important topic for management researchers and professionals, leading to a need for a better understanding of how it affects employees and organizations. Early studies had trouble defining the key ideas of workplace spirituality, but as these ideas have become clearer, more attention has been given to how spirituality at work impacts employee well-being. Organizations have faced major changes in recent years, such as technological advancements, job cuts, and increased job specialization, which have led to a work environment where employees often feel a loss of self-esteem (Driver, 2005).

Fry (2003) suggests that encouraging strong workplace spirituality can benefit both employees and organizations. According to Giacalone and Jurkiewicz (2003), businesses with a spiritual mindset tend to be more productive. Also, Mitroff and Denton (1999) discovered that workers who think their workplace is spiritual think their business makes more money than its rivals.

1.1 Integrating Workplace Spirituality for Holistic Employee Well-Being and Fulfillment

Spirituality at work has been seen as a useful way to improve the health and happiness of employees in work settings. Krishnakumar and Neck (2002) said that encouraging spirituality is good for both workers and businesses because it makes everyone healthier. Milliman et al. (1999) say that spirituality at work is good for both individual well-being and job success. An interesting study by Milliman et al. (2003) found a strong connection between spirituality in the workplace and better levels of organisational loyalty, intrinsic job satisfaction, and job engagement among workers.

By combining faith in the workplace with AI, emotional intelligence, and employee health, companies can make a complete plan for boosting productivity and creating a fulfilling place to work. Workplace spirituality, which is based on principles like ethics, compassion, and

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purpose, boosts emotional intelligence by helping people handle their feelings and make friends (Houghton, 2016; Sharma & Kumra, 2020). This understanding of emotions directly leads to better health and happiness among employees. Additionally, AI that is in line with spiritual principles can lower stress at work by removing boring tasks so that workers can focus on more important and satisfying tasks. When AI, EI, and workplace spirituality work together, they produce a balanced, moral, and productive organisational culture. This leads to happier employees, a healthier workforce, and overall success for the company (Krishnakumar & Neck, 2002; Yin, 2022). This method emphasises how important workplace spirituality is for making sure that technological progress puts human-centred ideals first, which is good for both individuals and the organisation as a whole.

1.2 Nurturing Educator Well-being: The Impact of Job Satisfaction, Spirituality, AI, and Emotional Intelligence :

When studying human attitudes and behaviours, satisfaction with work is one of the most important things to look at (Abdullah, 2011). With the rise of the idea of job satisfaction, people want to know how their level of happiness or discontent changes over time and how that affects their work. People who are satisfied with their jobs are also likely to feel good emotions like well-being, joy, excitement, happiness, fulfilment, and many more. One of the main points of this study is to look at how job happiness changes over time.

Spirituality at work has been shown to make people happier with their jobs (Bodia & Ali, 2012). Spirituality in the workplace has been shown to improve the health and happiness of workers. Krishnakumar and Neck (2002) said that it is best for businesses as a whole to encourage faith among employees for their own health and happiness. The review of the literature shows that workplace spirituality programs have a big positive effect on the personal well-being and job success of employees (Milliman et al., 1999), as well as their job satisfaction (Fry, 2005). For schools, teachers' happiness is the most important factor because happy teachers are more productive, creative, and likely to have better relationships with other people (De Neve, Diener, Tay, & Xuereb., 2013). When it comes to university teachers, those with high subjective well-being are more likely to feel good, which encourages people to do well at work and keeps them working until they reach their goals. A 2011 study by Peterson, Luthans, Avolio, Walumbwa, and Zhang found that workers who are happy are positive, hopeful, strong, and have a lot of self-efficacy. When people say they are subjectively well-being, they give more time and money to their neighbourhoods. Based on Harter, Schmidt, and Hayes (2002), workers spent a big part of their lives at work, so employers should promote employee health and happiness at work.

It is now necessary to use AI in human resource management (HRM), especially since the COVID-19 plague has caused so many problems (Mer, 2023). Describe how AI-powered solutions that use data mining, predictive analytics, and machine learning have simplified HRM tasks, making them more efficient and saving money. While Jia (2023) pointed out that implementing AI can be hard, Kawakami (2023) said that the biggest problems are making sure that "worker well-being" is clearly defined and dealing with technology issues. Stress how important it is to create wellbeing tools that are centred on workers and are driven by data, while also taking into account the social impacts and organisational culture.

Emotional intelligence has a big impact on keeping employees, which has been studied a lot. AI has a big impact on how well employees do their jobs. Relationship management, social awareness, self-awareness, and self-management are the four parts of emotional intelligence in the workplace (Emotional intelligence, 2019; Kumar, 2014). There is a strong link between these factors and how well they work in the job (Edward, 2020).

The goal of this study is to fill in that gap by suggesting a framework in which faith in the workplace is the independent variable and employee well-being is the dependent variable. Job satisfaction, AI, and EI will act as mediators. The study uses this approach to look into how AI, EI, and spirituality in the workplace can affect the health and happiness of workers by making them more emotionally aware, smarter, and happier with their jobs. The focus on educational institutions adds a new dimension since the health and happiness of school employees is important for both their happiness and the success of the school. This study adds to what has already been written by looking at how AI, EI, and faith in the workplace affect the health and happiness of education workers. The results should help educational institutions learn more about how to create an emotionally rich workplace that will make employees happier at work and better for their health.

2. Literature Review / Hypothesis Formulation of the Study

2.1 WPS to AI & EI:

Together, WPS and AI help to make the workplace relevant. AI-powered tools can improve and speed up work, and faith ensures that these new technologies align with human ideals. It helps employees make moral decisions and provides them a sense of purpose (Yin, 2022). It is reasonable to assume that a person with a higher degree of spirituality would be more conscious of both their own emotional needs and those of others (Houghton, 2016; Sharma and Kumra, 2020). The growth of emotional intelligence is one benefit that employees will experience from being able to demonstrate their spirituality at work, according to the "spiritual freedom" concept (Krishnakumar and Neck, 2002).

H1: Workplace spirituality positively influences emotional intelligence (EI), and artificial intelligence (AI).

2.2 WPS to Job Satisfaction:

The degree to which workers incorporate their spiritual beliefs into their work is correlated with higher levels of professional dedication and personal fulfilment (Reave, 2005). "Several research have shown a favourable relationship between employees' dedication and workplace spirituality (Bodia & Ali, 2012; Chawla & Guda, 2010; Hong, 2012; Markow & Klenke, 2005; Marschke, Preziosi & Harrington, 2011). Job happiness is positively impacted by workplace spirituality, according to research (Altaf & Awan, 2011; Bodia & Ali, 2012; Chawla & Guda, 2010; Clark et al. 2007; Robert, Young & Kelly, 2006; Deswal, 2024). Additional connections between spirituality and employee attitudes have been brought to light by other academics. Interestingly, Chand and Koul (2012) proposed that as spiritually orientated people are more likely to be upbeat and feel greater significance in their work, spirituality can help employees deal with organisational stress.

H2: Workplace spirituality positively influences Job Satisfaction.

2.3 AI & EI to Employee Well Being:

According to Kundi, Sardar, and Badar (2021), there is a negative relationship between EI and stress. This means that people who are more emotionally intelligent are less stressed. Wadhera and Bano (2020) argue that the psychological aspect of occupational stress is often overlooked. Cunningham (2014) highlights the under-researched role of spirituality in managing work stress, viewing it as a significant oversight. Automation and AI can help workers in some ways, but the history of using technology at work and research on sociotechnical systems show that they have more complicated and uneven impacts on workers' health and happiness. These impacts include both positive and negative influences on worker stress, job satisfaction, and overall health.

H3: Artificial intelligence and emotional intelligence are positively influence overall well-being

2.4 Job Satisfaction to Employee Well Being:

Workplace spirituality positively influences both personal well-being and JP (Milliman et al., 1999). Encouraging spirituality and permitting its open expression in the workplace enables employees to feel whole and genuine in their roles (Burack, 1999), with this sense of completeness contributing to their overall welfare. According to Kökalan (2019), job satisfaction is how an employee feels about their job generally. It shows how emotionally connected they are to their work, such as emotions like happiness and a good mood. This connection enhances well-being and is significantly influenced by HRM policies (Rai & Verma, 2023). According to Hendri (2019), job satisfaction directly impacts employee performance, with higher satisfaction levels leading to improved individual and organizational outcomes. Hameli et al. (2024) say that workplaces that care about their employees' health and happiness are more inclined to have happy workers. Some of the things that are often linked to greater job happiness are positive emotions, a positive mindset, and intrinsic

motivation (Hendri, 2019; Mu et al., 2023).
H4: Job Satisfaction has a positive and significant impact on Employee well-being.

2.5 WPS to Employee Well Being by JS as Mediation

Gull and Doh (2004) found that employees who derive meaning from their work tend to act more responsibly, ethically, collaboratively, and creatively. Similarly, Belwalkar et al. (2018) found a link between some aspects of faith at work and higher JS. According to Badri et al. (2023), spiritual traits and actions naturally push workers to reach their goals. Additionally, positive spiritual expression has a positive effect on mental wellness and health by encouraging healthy ways of coping, staying true to beliefs, and providing support. Employees who encounter workplace spirituality and spiritual well-being value their roles and organisations highly, resulting to greater job satisfaction (Binu Raj et al., 2023). Companies that care about their workers' health and happiness see fewer absences and better job satisfaction and success (Rubel et al., 2021; Hameli & Bela, 202). Binu Raj et al.'s (2023) mediation study shows that the link between WPS and JS is partly mediated by the health and happiness of employees. The hypothesis that is being put forward in this answer is:
H5: Job Satisfaction mediates the effect of Workplace Spirituality on Employee well-being.

2.6 WPS to Employee Well-Being by AI & EI as Mediation

WPS significantly enhances employee well-being, and its effects can be mediated by both AI and EI. AI technologies help optimize workflows, reduce repetitive tasks, and improve efficiency, thereby decreasing stress and increasing employees' sense of achievement (Rozman, 2023; Kaur, 2024). When integrated with WPS, which brings purpose and meaning to work, AI's advantages align with human values, fostering a balanced and fulfilling workplace. Emotional intelligence complements this by helping employees effectively manage their emotions and relationships, contributing to psychological well-being (Sundari, 2024). The combination of WPS with AI and EI offers a holistic approach to well-being, where employees feel valued, productive, and emotionally supported in their roles (Gao, 2024). This synergy enhances overall well-being, increasing job satisfaction and organizational commitment.
H6: Workplace spirituality has a positive effect on employee well-being, with artificial intelligence and emotional intelligence serving as mediating variables.

2.7 Direct effect of WPS on Employee Well Being

While some studies suggest a connection between workplace spirituality and employee well-being, there is limited empirical evidence to fully establish this link. Workplace spirituality has been shown to foster creativity, innovation, empowerment, shared vision and purpose, as well as strengthen team and community building (Lips-Wiersma & Mills, 2002). "Employee well-being benefits not just employees, but also organizations and communities. Harter, Schmidt, and Hayes (2002) emphasize that since employees spend a significant part of their lives at work, employers should promote well-being in the workplace. They further explain that workplaces serve as foundational environments where employees form friendships, learn values, and contribute to society (Fairholm, 1996). Promoting well-being at work results in a healthier, happier workforce (Cooper & Robertson, 2001). Employee well-being plays a central role in understanding various factors that influence the quality of work life". Warr (2002) highlights the importance of individuals' feelings about their own lives, suggesting that perceptions of personal well-being directly impact workplace satisfaction. In simpler terms, an employee's own view of their well-being at work shapes their overall sense of well-being. Currie (2001) stresses the importance of both physical and mental health, recommending a stress-free and safe work environment to support employee well-being, while Bakke (2005) links well-being to the quality of the workplace environment.
H7: Workplace spirituality has a positive and significant impact on employee well-being.

Novelty of the Study:

This study presents a novel exploration of the relationship between WPS and Employee Well-Being within the education sector, incorporating modern mediators such as AI, EI and

Job Satisfaction. While previous research has highlighted the positive effects of WPS on job satisfaction and performance in various industries (Hassan et al., 2016; Bella et al., 2021), the role of AI and EI as mediators in this relationship remains underexplored. This study fills this gap by investigating how AI and EI, alongside JS, influence the WPS-EWB relationship, offering a fresh perspective on integrating spirituality and technology to enhance employee well-being in educational institutions.

Conceptual Framework:

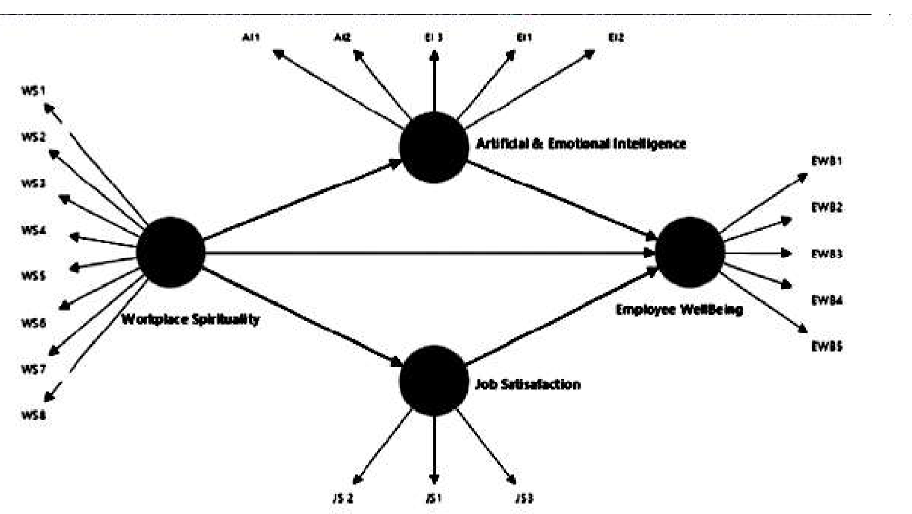

Figure 1.
conceptual framework

Source: SmartPLS 4.0

3. Research Methodology and Data Analysis

With AI & EI and job satisfaction as the middle variable, the study uses a quantitative research design to provide a comprehensive picture of how WSP impacts employee well-being. However, this strategy uses insight to identify certain basic causes and quantitative data to determine the levels of correlations.

Objectives of the study:

- To examine the mediating role of AI & EI in the relationship between Workplace Spirituality and Employee Well-Being.
- To assess how Job Satisfaction mediates the connection between Workplace Spirituality and Employee well being.
- To explore the direct impact of Workplace Spirituality on the well-being of employees.
- Population and Samples

A total of 700 educators from colleges and institutions in the Delhi NCR region of India are selected for the study using a random sampling method. The researcher is particularly interested in how cultural or economic factors influence educators' attitudes towards workplace spirituality in this region.

Measurements and Testing Research Variables

The independent variable is Workplace Spirituality include alignment with organizational values, meaningful work, and a sense of community. The dependent variable is employee well-being, while the mediators are job satisfaction, AI & EI. The study aims to examine how WPS influences these mediators, which subsequently impact employee well-being.

Tools and Techniques

The information is being gathered using a standardised questionnaire. A meticulously constructed Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree," was used to gauge college staff members' opinions regarding faith in the workplace. Questionnaire: The Instrument: Each section of the questionnaire is adapted to fit the specific context of this study, drawing from previous research. To measure Workplace Spirituality (WPS), an eight-item scale based on Milliman (2003a, 2003b) is used. Artificial Intelligence (AI) is assessed with a two-item scale adapted from W. Holmes and M. Bialik, while Emotional Intelligence (EI) is measured using a three-item scale based on Salovey & Mayer (1990) and Mayer et al. (2000).

Construct	Item	Description
Employee well-Being (EWB) Diener, 1984	EWB1	I've been feeling positive about the future
	EWB2	I've been dealing with challanges well
	EWB3	I've been able to energise my own mind about things
	EWB4	I've been feeling attached to colluges
	EWB5	I've been feeling calm and motivated
Artificial intelligence (AI) W. Holmes, M. Bialik	AI1	AI tools and applications improve the quality of education.
	AI2	AI applications help teachers by automating administrative tasks.
Emotional Intelligence (EI)Salovey& Mayer, 1990, Mayer et al., 2000	EI1	I am aware of my emotions as I experience them.
	EI2	I can control my emotions when needed.
	EI3	I remain calm even in stressful situations.
Workplace Spirituality (WPS) Milliman, 2003a, Milliman, 2003b [11]	WPS1	I feel comfortable expressing my personal spirituality or beliefs at work.
	WPS2	My personal values align with the values of my organization.
	WPS3	I feel a sense of community with my coworkers.
	WPS4	My work gives me a sense of purpose.
	WPS5	The overall spiritual environment of my workplace is positive (e.g., sense of peace, mindfulness, and respect).
	WPS6	My organization recognizes and appreciates my contributions.
	WPS7	I feel a sense of fulfillment and satisfaction from my work.
	WPS8	My workplace is open to diverse spiritual beliefs and practices.
Job Satisfaction (JS) Adamas, (1995)	JS1	I am satisfied with the way my Supervisor handles the team.
	JS2	I am satisfied with the remuneration paid to me.
	JS3	I am satisfied with my working hours at my present job.

Table 1.
Scale for Measuring

Employee well-being is evaluated using a five-item scale based on Diener's 1984 research [15], and Job Satisfaction is assessed using three items from Adamas (1995). All measures are evaluated on a five-point Likert scale. These scales provide a robust framework for analyzing the relationships between the various complex factors influencing employee well-being (EWB).

Data Collection:
Questionnaires were sent to educators from various educational institutions in Delhi NCR to get first-hand information. Data collection for this study took over 4-5 months in 2023, with respondents being educators from various institutes. The time spent at individual institutes varied, with some institutions requiring the better part of a day to gather responses, while others extended over several days due to scheduling constraints and the availability of respondents.

Statistical Tools:
The study uses a quantitative research design and has a flexible data collection timeframe. To investigate possible links between variables, correlation analysis is performed. Using variance-based PLS-SEM, which is appropriate for analysing complicated multivariate data, SmartPLS 4 software (Ringle, 2015) is used to apply structural equation modelling (SEM) to test the study hypotheses. Formative predictor factors, such as the appeal of universities in emerging economies, are included in the analysis (Cheah, 2019; Sarstedt, 2019).

4. Data Analysis and Result:
To get information, the administration gave hard copies of questionnaires to 700 randomly chosen teachers and staff members. The return rate was 86.29%, with 604 questionnaires being sent back. Table 2 shows the Qualities, Categories, Frequency, and Percentage (%) of the different people who answered.

Items	Qualities	Categories	Frequency	Percentage (%)
1	Designation	Teaching Assistant	330	54.64
		Lecturer	50	8.28
		Assistant Professor	55	9.11
		Associate Professor	150	24.83
		Professor	19	3.15
2	Length of service in the same institution	Less than 03 yrs.	238	39.40
		03–06 yrs.	195	32.28
		06–09 yrs.	133	22.02
		09–11 yrs.	35	5.80
		> 11 yrs.	03	0.50
3	The number of institutions worked for	Less than 2 institutes	246	40.73
		2 - 4 institutes	278	46.03
		5 – 7 institutes	78	12.91
		8 – 10 institutes	02	0.33
		> 10 institutes	0	0
4	Age	22–32	374	61.92
		33–44	190	31.46
		44–54	40	6.62
		> 54	0	0
5	Sex	Male	160	26.49
		Female	444	73.51
6	Qualification	Post Graduate	325	53.81
		Ph.D	260	43.05
		Post Doc.	19	3.15
7	Monthly Remuneration	Less than 25000	120	19.87
		25000-45000	255	42.22
		45001-65000	168	27.81
		>65001	61	10.10
8	Marital status	Married	309	51.16
		Unmarried	295	48.84

Table 2.
Demegraphic Data

The demographic data reveals that the majority of respondents are Teaching Assistants (about 55%), with most having less than six years of service in their institutions. A large proportion have worked in 2-4 institutions (46%), and most are aged 22-32 (62%). The sample is predominantly female (73%) and highly qualified, with 54% holding postgraduate degrees and 43% having PhDs. In terms of salary, most participants earn between 25,000-45,000 (42%). Marital status is almost evenly divided, with 51% married and 49% unmarried.

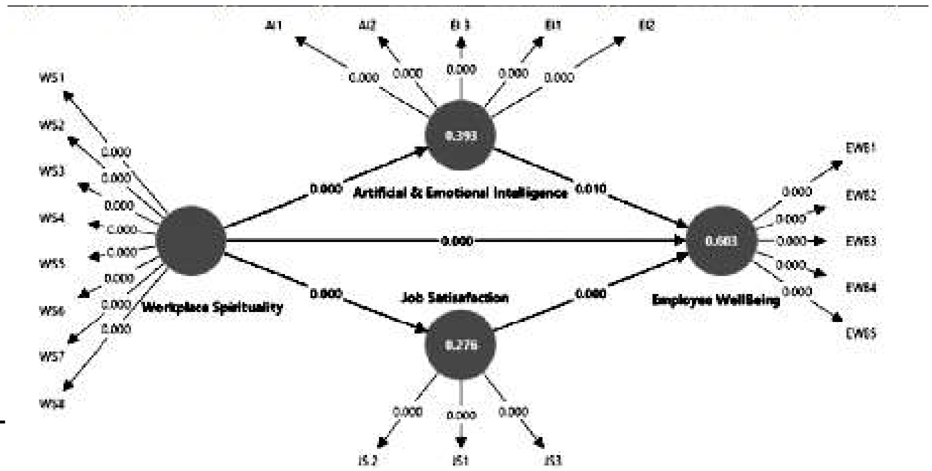

Figure 2.
PLS-SEM Model

Source: SmartPLS 4.0

Table 3.
Descriptive data for the things in the construction

	Mean	Standard deviation	Excess kurtosis	Skewness	VIF
AI1	3.575	0.551	0.804	-0.594	1.767
AI2	3.677	0.625	0.999	-0.408	1.566
EI 3	3.705	0.673	1.061	-0.287	1.832
EI1	3.669	0.658	0.594	-0.186	1.840
EI2	3.674	0.657	0.624	-0.204	2.073
EWB1	3.791	0.527	3.091	-1.129	1.933
EWB2	3.896	0.779	0.547	-0.469	1.849
EWB3	3.868	0.725	1.402	-0.656	2.058
EWB4	3.825	0.709	2.440	-0.909	2.063
EWB5	3.828	0.681	2.889	-1.031	2.389
JS 2	3.704	0.712	0.372	-0.079	1.498
JS1	3.725	0.570	2.717	-0.999	1.525
JS3	3.674	0.644	0.640	-0.166	1.588
WS1	3.829	0.511	4.566	-1.216	1.951
WS2	4.038	0.761	0.423	-0.493	2.100
WS3	3.917	0.625	2.891	-0.796	1.985
WS4	3.944	0.654	2.357	-0.727	2.085
WS5	3.947	0.644	2.325	-0.660	1.947
WS6	3.904	0.691	2.100	-0.776	2.322
WS7	3.897	0.680	1.758	-0.660	2.167
WS8	3.889	0.648	2.703	-0.804	2.166”

Source: Author's work.

Table 3, shows the descriptive statistics for the constructs, the results show generally positive responses across all variables, with AI2 and EI3 having moderate agreement and some variability. Employee well-being (EWB5) and job satisfaction (JS1) both have higher means, indicating strong positive perceptions, particularly for well-being, which also shows low variability. Workplace spirituality (WS2) reflects the highest mean (4.038), suggesting that respondents strongly agree on its importance. Skewness values indicate that the responses generally lean towards the higher end, and kurtosis values suggest more peaked distributions, meaning responses are concentrated around the mean.
The table 4, shows that all constructs demonstrate strong reliability, with CA values ranging from 0.759 - 0.911, indicating internal consistency. CR (rho_c) values are all above 0.86, showing good reliability, and AVE values are above 0.6, confirming adequate convergent validity for each construct.

Table 4.
Cronbach Alpha, Reliability and Average Variance Extract Table

	CA	CR (rho_a)	CR (rho_c)	AVE
Artificial & Emotional Intelligence	0.850	0.852	0.893	0.625
Employee Well-Being	0.879	0.879	0.912	0.674
Job Satisfaction	0.759	0.768	0.861	0.674
Workplace Spirituality	0.911	0.916	0.928	0.617

Author's work.

The result shows that each construct has good discriminant validity, meaning they are distinct from each other. The moderate correlations (ranging from 0.525 to 0.712) confirm that while related, these factors remain separate, particularly in an educational context.

Mediation Analysis:
For the mediation analysis, bootstrapping is applied in SmartPLS 4.0, providing the direct effects, indirect effects, and the mediator's influence. Bootstrapping estimates the significance of mediation paths by resampling the data multiple times.

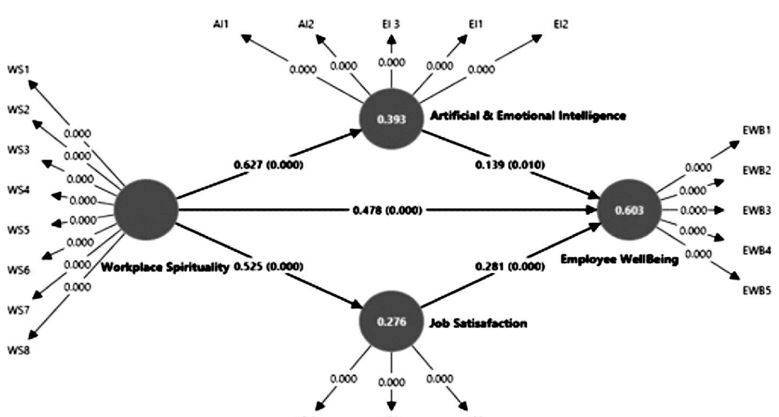

Figure 3.
PLS-SEM Model After Bootstrapping

Source: SmartPLS 4.0

The direct effect of WPS on Employee Well-Being (see table 5) is 0.234 (T=5.868, p=0.000), which indicates a significant direct relationship between WPS and EWB. This supports Hypothesis

Table 5.
Indirect Effect

	Original sample	Sample mean	STDEV	T statistics	P values
WPS -> Employee WellBeing	0.234	0.234	0.040	5.868	0.000

Source: Author's work.

The indirect effect through JS is 0.147 (T=5.218, p=0.000) in table 5, indicating that JS partially mediates the nexus between WPS and EWB. This supports Hypothesis 5. Table 6 Specific indirect effect through Artificial and Emotional Intelligence is 0.087 (T=2.510, p=0.012), showing that AI & EI also act as a mediator between WPS and Employee Well-Being. This supports Hypothesis 6.

Table 6.
Specific Indirect Effect

	Original sample	Sample mean	STDEV	T statistics	P values
WPS -> Job Satisfaction -> Employee WellBeing	0.147	0.147	0.028	5.218	0.000
WPS -> AI & EI -> Employee WellBeing	0.087	0.087	0.035	2.510	0.012

Source: Author's work.

The total effect analysis reveals several significant relationships (see table 7). Artificial and Emotional Intelligence (AI & EI) have a total effect of 0.139 on Employee Well-Being (T=2.561, p=0.010), supporting the hypothesis that AI & EI significantly influence Employee Well-Being. Similarly, Job Satisfaction has a total effect of 0.281 on Employee Well-Being (T=6.041, p=0.000), suggesting that it plays a crucial role in enhancing Employee Well-Being. Workplace Spirituality (WPS) shows a strong effect on both AI & EI (0.627, T=14.824, p=0.000) and Job Satisfaction (0.525, T=10.925, p=0.000), indicating that WPS significantly impacts these variables. Furthermore, the total effect of WPS on Employee Well-Being is 0.712 (T=19.947, p=0.000), confirming that WPS has a direct and substantial influence on Employee Well-Being. These results validate all related hypotheses and underscore the importance of WPS, AI & EI, and Job Satisfaction in fostering Employee Well-Being.

Table 7.
Total Effect

	Original sample	Sample mean	STDEV	T statistics	P values
Artificial & Emotional Intelligence -> Employee WellBeing	0.139	0.139	0.054	2.561	0.010
Job Satisfaction -> Employee WellBeing	0.281	0.282	0.046	6.041	0.000
Workplace Spirituality -> Artificial & Emotional Intelligence	0.627	0.625	0.042	14.824	0.000
Workplace Spirituality -> Employee WellBeing	0.712	0.713	0.036	19.947	0.000
Workplace Spirituality -> Job Satisfaction	0.525	0.522	0.048	10.925	0.000

Source: Author's work.

5. Conclusion

The study reveals significant relationships between Workplace Spirituality, AI & EI, Job Satisfaction, and Employee Well-Being. This indicates that educational institutions that foster a spiritually enriched work environment tend to enhance the overall well-being and job satisfaction of educators. Integrating AI & EI into educational management and teaching practices further strengthens these positive outcomes by reducing administrative burdens, enhancing emotional resilience, and fostering better communication and collaboration among educators. This aligns with the literature by Yin (2022) and Krishnakumar & Neck (2002), which emphasizes that workplace spirituality fosters a meaningful environment, enhancing employees' emotional intelligence by increasing awareness of their own and others' emotions (Houghton, 2016; Sharma & Kumra, 2020). Moreover, WPS positively impacts job satisfaction, confirming previous findings that link spirituality to increased JS and organizational commitment (Reave, 2005; Altaf & Awan, 2011; Chand & Koul, 2012).

The study also highlights that AI & EI significantly contribute to employee well-being means AI can handle routine tasks, reducing stress, while EI helps educators manage their emotions better, leading to a healthier and more positive work environment. This finding is consistent with the research of Kundi et al. (2021), who observed that individuals with higher emotional intelligence experience lower levels of stress. Moreover, while AI and automation have brought certain advantages to the workplace, their impact on employee well-being can be both positive and negative, reflecting mixed outcomes as observed in socio-technical systems literature (Cunningham, 2014). The findings show that job satisfaction is an important mediator between workplace spirituality and employee well-being (Bodia & Ali, 2012; Chawla & Guda, 2010).

From a practical standpoint, the study suggests that organizations should adopt a people-centric approach to AI integration. This involves prioritizing ethical considerations, promoting emotional intelligence among employees, and fostering a workplace culture that supports spiritual values and community engagement. By doing so, organizations can maximize the benefits of AI while safeguarding employee wellbeing and maintaining a supportive work environment.

6. Limitation and Practical Implication of Study:

The study focused on the educational sector in Delhi NCR, is limited by its reliance on quantitative data, potentially overlooking deeper qualitative insights into workplace spirituality and emotional intelligence. The regional scope may restrict generalizability, and self-reported data could introduce bias. Additionally, the cross-sectional design limits understanding of long-term effects.

In terms of practical implications, the findings suggest that educational institutions can enhance employee well-being by promoting workplace spirituality and emotional intelligence. Integrating values-driven AI tools in educational settings could help improve both administrative efficiency and the emotional well-being of staff. Encouraging a spiritually enriched workplace can foster greater job satisfaction, reduce stress, and increase overall performance. HR practices in educational institutions should consider incorporating emotional intelligence training and fostering an environment that aligns with employees' spiritual values to enhance job commitment and well-being.

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Relationship Between Self-Efficacy and Entrepreneurial Continuance Intentions of Women Entrepreneurs: Mediating Role of Family Support

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Abstract

Purpose: The study identifies the role of self-efficacy and family support in driving women's entrepreneurial continuance intentions. The research follows mixed method approach. Initially we develop a conceptual model using Social cognitive theory and Family support theory to test factors impacting women entrepreneur's continuance intention.

Design/methodology/approach: The research follows mixed method approach. Data was collected using purposive sampling from 248 female entrepreneurs. The study was further extended using interview techniques to understand the challenges faced by women entrepreneurs.

Findings: The results of the quantitative study show that there is a mediating effect of perceived support from family on the relationship between self-efficacy and entrepreneurial continuance intention. The findings also depict that self-efficacy positively impacts entrepreneurial continuance intention and perceived family support. The results of quantitative study results showing effect of perceived support from family on the relationship between self-efficacy and entrepreneurial continuance intention. The findings also depict that self-efficacy positively impacts entrepreneurial continuance intention and perceived family support.

Research limitations/implications: The study was a cross sectional study. Future researchers can explore the same in longitudinal study to evaluate the change in mindset.

Social implications - Women entrepreneurs face several challenges during their business journey. The current study will help in understanding how does the support of family and self-efficacy of an women entrepreneur lead them to continue in their business.

Keywords : Women entrepreneurship, Entrepreneurial continuance intention, PLS-SEM, Entrepreneurship, Female entrepreneurs

1. Introduction

In an environment historically dominated by men, women are now forging ahead to embrace entrepreneurial ideas and chart their paths toward becoming successful entrepreneurs. When women join the workforce, it leads to a doubling of our economic productivity and sets a precedent for future generations regarding gender equality (Women Entrepreneurs Shaping the Future of India, IBEF, n.d.). Women make substantial contributions to economic growth (Hechevarra et al., 2019) and entrepreneurial activity, particularly in job creation (Ayogu & Agu, 2015). The inclusion of women in the workforce has a positive impact on reducing poverty and social divisions (Rae, 2014). However, it is noteworthy that fewer women than men opt for careers in entrepreneurship (Elam et al., 2019; Kelley et al., 2017). If women initiated and expanded businesses at a rate similar to men, an additional $350 billion would have been added to the UK economy (Laker, 2021). The perception that women lack confidence in their ability to start businesses is rooted in a patriarchal mindset. This viewpoint suggests that women's generally lower levels of entrepreneurial self-efficacy (ESE) compared to men's are used as evidence to label women as 'inferior' in this domain. Consequently, there is a call for politicians, academics, and educational institutions to develop and implement initiatives aimed at boosting women's entrepreneurial confidence addressing this perceived deficiency (Handley, 2023).

Entrepreneurs are driven by various traits, including individual characteristics and self-efficacy (Chang et al., 2020). An individual's potential and entrepreneurial efforts are closely

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linked to their entrepreneurial self-efficacy, which tends to be strong in those who possess it. While there is limited research on women's entrepreneurial intentions from the perspective of self-efficacy theory, a substantial body of research explores self-efficacy itself, its gender-related variations, and its significance in career choices (Jiatong et al., 2021). Literature also examines the societal context of women's entrepreneurial intentions and the factors influencing their advancement. However, a knowledge gap remains, as previous research has not thoroughly examined the self-efficacy of women who support their families or their role in promoting women's progress in a globalized society. According to existing literature, self-efficacy plays a crucial role in career decisions, with women possessing high self-efficacy more likely to pursue entrepreneurial careers. Most studies on women's entrepreneurship have predominantly focused on personality and demographic traits (Jiatong et al., 2021). However, this study aims to address the gap in our understanding of women's self-efficacy and their intentions to continue in entrepreneurship. Additionally, the study introduces the family support variable as a mediator to investigate its impact on women's intentions to continue as entrepreneurs. Consequently, this paper has two research objectives:
RO1: To assess the influence of family support on the entrepreneurial continuation intentions of women entrepreneurs and the mediating role of perceived family support on this relationship.
RO2: To identify the challenges encountered by women entrepreneurs and support expected. Therefore, the study aims to address the gap in two ways- First, we test a conceptual model towards understanding women's self-efficacy and entrepreneurial continuation intentions. Second, to deep dive in the issues faced by women entrepreneurs, we conducted interviews on women entrepreneurs. The novel contribution of the study can be mentioned as analysing the issue of women's intentions to continue entrepreneurial activities and the mixed method approach of combining interview with empirical research.

2. Conceptual Model and hypothesis development

To understand the role of self-efficacy and family support in women entrepreneurial intention we use Social cognitive theory (SCT) (Bandura,1986), and Family Systems Theory (FST) (Bowen, 1960). SCT, developed by Albert Bandura, places self-efficacy at its core. According to SCT, individuals' beliefs in their own abilities significantly influence their behaviors and decisions. Self-Efficacy represents an individual's perception of their ability to perform entrepreneurial tasks successfully. SCT posits that higher self-efficacy leads to a stronger intention to persist in entrepreneurial activities. SCT emphasizes the role of self-efficacy in shaping intentions and behaviors. It suggests that individuals with higher self-efficacy are more likely to set and pursue challenging goals, including entrepreneurial endeavors. Therefore, Self-Efficacy serves as a mediating variable, influencing entrepreneurial continuance intention positively. Further, FST (Bowen, 1960) explores the dynamics within family units and how they affect individual behavior. We theorize perceived family support as the extent to which individuals perceive their family as a source of support and encouragement in their entrepreneurial pursuits. FST posits that family dynamics, including support or lack thereof, can significantly impact an individual's decisions and actions. FST suggests that family support can act as a facilitator or barrier to individual actions and intentions. Supportive families may encourage individuals to persist in their entrepreneurial ventures, while a lack of support may lead to lower intentions to continue. Perceived Family Support directly influences Entrepreneurial Continuance Intention (Bowen, 1960).
By combining SCT and FST, we propose that self-efficacy and family support influences entrepreneurial continuance intention. Self-Efficacy, rooted in SCT, impacts entrepreneurial continuance Intention and perceived family support mediates this relationship. This means that the support individuals perceive from their families affects their intention to persist in entrepreneurship (Figure 1).

Hypothesis development

Self-Efficacy and entrepreneurial continuation intentions
SCT (Bandura, 1986) emphasizes the influential role of self-efficacy in shaping human behavior and decision-making. According to SCT, individuals with higher self-efficacy beliefs are

more likely to set challenging goals, persevere in the face of obstacles, and exhibit greater motivation to achieve desired outcomes. In the entrepreneurial context, self-efficacy can be seen as the belief in one's ability to effectively perform tasks related to entrepreneurship, such as problem-solving, decision-making, and resource management. Entrepreneurs with higher self-efficacy are expected to possess the confidence and motivation needed to continue their entrepreneurial endeavors despite challenges. Numerous empirical studies have provided support for the positive influence of self-efficacy on entrepreneurial intentions and behaviors. Research has shown that individuals with higher self-efficacy are more likely to pursue entrepreneurial opportunities, exhibit greater persistence, and remain committed to their entrepreneurial ventures. Scholars have increasingly delved into how outcome perceptions influence entrepreneurial continuation intentions (Ozaralli & Rivenburgh, 2016). They have linked perceived feasibility and attractiveness to self-efficacy, which can profoundly shape an individual's entrepreneurial attitude (Krueger, 2007). Bandura et al. (2001) suggest that entrepreneurial self-efficacy measures an entrepreneur's belief in their abilities and confidence in the results they anticipate from their efforts. Furthermore, research indicates that parents with a business background can instil entrepreneurial aspirations in their children. Family support models also highlight the significant impact of familial influence on the decision to pursue entrepreneurship (Wang & Wong, 2004). Confidence in one's ability to navigate the challenges of starting and sustaining a business is paramount to success (McGee et al., 2009), and familial relationships play a substantial role in individuals' decisions to venture into entrepreneurship. Additionally, self-efficacy has been identified as a key trait underpinning the social learning theory (Bandura et al., 1977), influencing one's behavior, goal-setting, and motivation. The application of this theory to entrepreneurship is gaining traction, given its focus on self and the pursuit of entrepreneurial continuity. Entrepreneurs with strong self-efficacy beliefs tend to set higher goals and are better equipped to handle setbacks, which contributes to their continued engagement in entrepreneurial activities. Entrepreneurial self-efficacy emerges as a pivotal factor motivating individuals to pursue entrepreneurial careers. Self-awareness is considered essential in gauging the intensity of entrepreneurial aspirations and the likelihood of translating those intentions into successful endeavours (Hijazi et al., 2023). In the realm of entrepreneurship, self-efficacy specifically pertains to the tasks involved in initiating and nurturing new businesses. Consequently, those who believe in their capability to establish a new venture are more inclined to do so (Ming & Choy, 2014). Research has consistently shown that individuals with high self-efficacy in executing the tasks required for business creation are more likely to take the plunge and persist in their entrepreneurial pursuits. Entrepreneurial self-efficacy is closely linked to entrepreneurial intent and play roles among women entrepreneurs (Ajzen, 2002, Hamdani et al., 2023, Madawala et al., 2023, Haque and Kour, 2023). Self-efficacy plays a vital role in influencing future entrepreneurial continuation intentions within this context (Hsu et al., 2019). Thus, we hypothesise that,

H1: Self-Efficacy positively influences entrepreneurial continuation intentions.

Self-Efficacy positively influences perceived family support.

SCT posits that self-efficacy, which refers to an individual's belief in their ability to perform specific tasks, influences their behavior, choices, and interactions with their environment (Bandura, 1986). Self-efficacy can affect an individual's perception of their family's support in entrepreneurial endeavors. Individuals with higher self-efficacy are more likely to be proactive in seeking and interpreting support from their family. They may view their capabilities and entrepreneurial potential more positively, leading them to perceive family members as supportive and encouraging. This alignment with FST suggests that self-efficacy may act as a cognitive filter, influencing how individuals perceive and interpret the actions and behaviors of their family members. Empirical research supports the notion that self-efficacy can influence an individual's perception of support from their family (Xu et al., 2020, Saoula et al., 2023, Wiiewardena et al., 2023). Entrepreneurs with higher self-efficacy beliefs may interpret their family's actions as more supportive, even if those actions are ambiguous or less overt. They may be more likely to seek out and receive assistance from their family due to their confidence in their ability to effectively utilize the support offered. Studies have indicated that individuals with strong self-efficacy are more likely to actively engage their support networks, which can include family members. Moreover, these individuals tend to maintain a positive outlook when interpreting their family's contributions to their entrepreneurial pursuits, reinforcing the idea that self-efficacy can shape perceived family support. Thus, we propose that,

H2: Self-Efficacy positively influences perceived family support.

Perceived family support positively influences entrepreneurial continuation intentions

Family influence extends to numerous aspects of one's life, including self-esteem, innovation adoption, people management risk propensity, and career choices (Stamboulis & Barlas, 2014, Amminbhavi & Hiremath, 2023, Makandwa & De, 2023). Family support is particularly impactful during the idea-generation phase of entrepreneurship, providing essential emotional and moral backing (Edelman et al., 2016, Makandwa & De, 2023). Furthermore, economic conditions and cultural influences, especially those related to family responsibilities, shape family members' responses to entrepreneurial endeavors (Henrekson & Sanandaji, 2014; Annink et al., 2015, De & Thongpapanl, 2023). Thus we propose that,

H3: Perceived family support positively influences entrepreneurial continuation intentions.

Family holds a crucial position in shaping aspirations for entrepreneurial continuity, with family history and support significantly affecting outcomes (Altinay et al., 2012). A person's family has profound impacts on various facets of their life, including career decisions, emotional responses, and social foundations (Welsh et al., 2021). Social support from family members, especially in the initial phases of entrepreneurship, has been identified as crucial (Edelman et al., 2016). While environmental forces like family support influence self-efficacy outcomes (Tolentino et al., 2014), there is a lack of empirical evidence on how external forces, such as family support, act as mediators in the relationship between self-efficacy and continuation intentions. We propose that self-efficacy leads to entrepreneurial continuance intentions, however the family support as a mediator would provide a stronger argument. Therefore, we explore the impact of family support on the link between entrepreneurial self-efficacy and the intention to sustain entrepreneurial endeavours.

H4: Perceived family support mediates the relationship between self-efficacy and entrepreneurial continuation intentions.

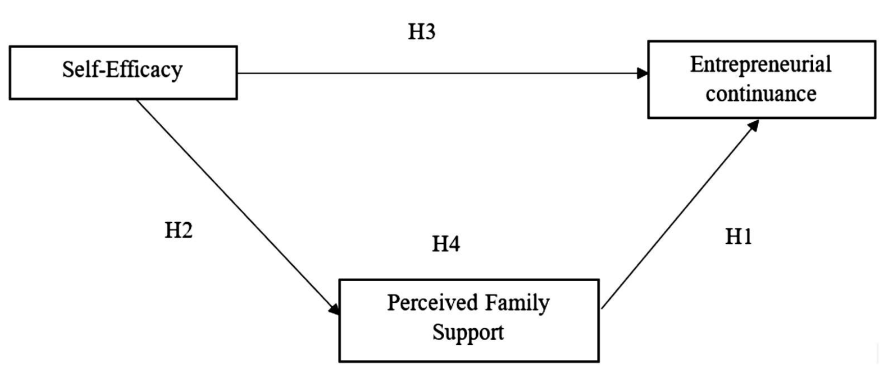

Figure 1.
Conceptual model

Study 1: Quantitative analysis

3. Methodology

Data was collected with the help of a structured questionnaire. The constructs and the items were derived from the previous scales found in literature (Table 2). Entrepreneurial continuance intention was measured using six items from Datta (2020), while perceived family support was measured using four items from Xu et al. (2020). Self-Efficacy was measured using four items from Zhao et al. (2005). The items were measured on a 5 point Likert scale. In the survey conducted, the respondents were asked questions related to their demographic profile, item-related questions, and open-ended questions. PLS-SEM was used for analysing the data. The data was collected from 248 respondents. Females were chosen as samples because entrepreneurial intentions are assessed using a process-based approach, and assessments of their backgrounds are crucial for determining these intentions (Turker & Selcuk, 2009; Ikuemonisan, 2022). Women entrepreneurs were identified using social media channels such as LinkedIn and personal contacts using purposive sampling (Etikan et al., 2016; Shukla et al., 2021; Palinkas et al., 2015).

4. Results

The sample composition comprises of 50% of the entrepreneurs who are working in family-owned firms while the remaining have their businesses (refer Table 1). The average time of respondents' involvement in business is 2.3 years. The sample is educated with 25% as postgraduates and 75% as undergraduates. 85% of respondents are unmarried. The majority of the respondents are young women, comprising of 71.43% with in age group of 18-22.

Variable		Frequency	Percentage
Family-owned firm	No	124	50.0
	Yes	124	50.0
Average time involved in business		2.3 Years	
Education	PG	62	25.0
	UG	186	75.0
Marital Status	Married	36	14.28
	Unmarried	211	85.71
Age	18-22	177	71.43
	23-28	35	14.28
	29-34	27	10.71
	35-40	9	3.57

Table 1.
Demographic Analysis

Assessment of measurement model

An evaluation of the measurement model evaluates the link between the constructs and their items. Since the questions were adapted from developed scales, confirmatory factor analysis (CFA) was used to check the validity and reliability of the questionnaire. CFA was evaluated using the constructs' internal consistency, convergent validity, and discriminant validity (Table 2).

Composite reliability and Cronbach's alpha were used to evaluate internal consistency. The Cronbach's alpha values exceeded the threshold value of 0.7 (Hair et al., 2012). The composite reliability values were ranged between 0.7 to 0.91 and hence acceptable (Hair et al., 2012). Thus, internal consistency was established.

Convergent validity was established by assessing outer loadings and the average variance extracted (AVE). The AVE values were more significant than 0.5 and the outer loadings were higher than 0.7, thus convergent validity was established. The discriminant validity was assessed using the Fornell-Larcker criterion and HTMT (Heterotrait-Monotrait) ratio. The squared correlations (represented in diagonal values) with other constructs were lower than the AVE values (non-diagonal elements) (Table 3) (Fornell-Larcker, 1981). The HTMT is defined as the (geometric) mean of the average correlations for the items measuring the same construct equals the (geometric) mean of the item correlations across constructs (Stone, 1974). The HTMT ratio values were less than 0.85 and were acceptable (Table 4). As a result, discriminant validity was established.

Table 2.
Factor loadings

Constructs	Items	Indicator loadings	Cronbach Alpha	CR	AVE
Entrepreneurial continuance intention (Datta et al., 2020)	CI1: I feel that the time I need to invest in my entrepreneurial venture in the "future" will be worthwhile.	0.785	0.883	0.910	0.629
	CI2: I feel that the money I have "currently" invested with my entrepreneurial venture is worthwhile.	0.868			
	CI3: My intention is to continue devoting time and effort to my entrepreneurial venture.	0.751			
	CI4: Regardless of how much money I make, I intend to continue pursuing my entrepreneurial venture.	0.836			
	CI5: My intention is to continue devoting money to my entrepreneurial venture.	0.757			
	CI6: I feel that the effort I need to invest with my entrepreneurial venture in the "future" will be worthwhile.	0.755			
Perceived Family Support (Xu et al., 2020)	FS1: My parents/guardians/ spouse encourage me to become self - employed	0.728	0.757	0.846	0.581
	FS2: My family is okay with me making a career in entrepreneurship	0.833			
	FS3: Other family members support my idea of becoming self - employed	0.838			
	FS4: My parents or someone in the family are willing to provide me with start-up capital.	0.632			
Self-Efficacy (Zhao et al.,2005)	SE1: How confident are you in successfully identifying new business opportunities?	0.721	0.780	0.806	0.513
	SE2: How confident are you in creating new products?	0.832			
	SE3: How confident are you in thinking creatively?	0.672			
	SE4: How confident are you in Commercializing an idea or new development?	0.624			

Table 3.
Fornell-Larcker criterion

Constructs	Entrepreneurial Continuance Intention	Perceived Family Support	Self-Efficacy
Entrepreneurial Continuance Intention	0.793		
Perceived Family Support	0.631	0.762	
Self-Efficacy	0.644	0.366	0.716

Table 4.
Heterotrait-Monotrait Ratio

Constructs	Entrepreneurial Continuance Intention	Perceived Family Support
Perceived Family Support	0.740	
Self-Efficacy	0.782	0.483

Assessment of structural model

The evaluation of relations between the constructs and hypothesis testing is referred to as structural model. The conceptual framework is evaluated using PLS-SEM conducted with bootstrapping at 5000 subsamples for hypothesis testing (Hair et al., 2012). The model was examined for collinearity. The variance inflation factor (VIF) values are below 5, hence multicollinearity is absent.

According to the conceptual model of the study, four hypotheses were formulated H1, H2, H3, and H4. The results of the hypothesis testing are given in Table 5. The table presents the results of a study that investigated the association between self-efficacy, perceived family support, and entrepreneurial continuance intention. The study tested four hypotheses, and the results indicate that all four hypotheses were significant.

The first hypothesis (H1) predicted that self-efficacy positively impacts entrepreneurial continuance intentions. The results show that this hypothesis was supported (β = 0.477, t = 3.755, p = 0.000), indicating that individuals who have higher levels of self-efficacy are more likely to continue with their entrepreneurial pursuits. The second hypothesis (H2) predicted that self-efficacy positively impacts perceived family support. The results support this hypothesis (β =0.366, t = 3.069, p = 0.002), indicating that individuals who have higher levels of self-efficacy also perceive greater support from their family members. The third hypothesis (H3) predicted that perceived family support positively impacts entrepreneurial continuance intention. The results support this hypothesis (β =0.456, t = 2.743, p = 0.006), indicating that individuals who perceive greater support from their family members are more likely to continue with their entrepreneurial pursuits. The fourth hypothesis (H4) predicted that perceived support from family mediates the association between self-efficacy and entrepreneurial continuance intentions. The outcomes support this hypothesis (β =0.167, t = 1.971, p = 0.049), indicating that the relationship between self-efficacy and entrepreneurial continuance intentions is partially explained by perceived support from family members.

Table 5.
Hypothesis Testing

Hypotheses	β values	t value	P value	Result
H1: Self -Efficacy positively impacts entrepreneurial continuance intention.	0.477	3.755	0.000	Significant
H2: Self-Efficacy positively impacts perceived family support.	0.366	3.069	0.002	Significant
H3: Perceived family support positively impacts entrepreneurial continuance intention.	0.456	2.743	0.006	Significant
H4: Perceived family support mediates the relationship between self-efficacy and entrepreneurial continuance intentions.	0.167	1.971	0.049	Significant

5. Findings

To analyse the women entrepreneurs continuance intention, we used a mixed method approach. In study 1 we conducted a survey on 248 entrepreneurs to identify the impact of family support and self-efficacy on entrepreneurship continuance intentions. PLS-SEM was used to analyse 248 responses. Self-efficacy positively impacts entrepreneurial continuance intention and perceived family support. Perceived family support positively impacts entrepreneurial continuance intentions. Further, the mediating effect of perceived support from family on the relationship between self-efficacy and entrepreneurial continuance intention was established.

The development of women's entrepreneurial continuance intentions is influenced by self-effectiveness. It shows that women have enough confidence in their skills to be successful and accomplish difficult goals like entrepreneurship. Hence, women's perceptions of feasibility are increased by their self-efficacy beliefs, which influence their intention to start their own business. The younger women, who have higher levels of self-efficacy, think that in order to start a new business, they will need to be more willing to do so.

Although the self-efficacy component is the most significant element that affects women's entrepreneurial continuance intention throughout this study, women must have the courage and persistence to engage in entrepreneurial activities, even when the majority of participants are their competitors. Perceived family support has also been discovered to have an impact on the continuance intentions of female entrepreneurs. In addition, to enable women entrepreneurs to succeed in the sector, self-driven endeavours must be undertaken, particularly in terms of developing knowledge, skills, and networks.

More precisely, this research shows that women's intentions to continue their own businesses are most significantly positively impacted by their domain-specific self-efficacy (Acevedo-Garcia et al., 2019). Hence, increasing women's enthusiasm to pick starting their own enterprises as their career choice goal and giving them the tools to overcome the inherent hurdles of the new venture development process can help women's intentions to continue being entrepreneurs.

Furthermore, due to its substantial direct and indirect linkages with the construct, self-efficacy appeared as the factor that most significantly contributed to women's intention to continue their businesses. Given that self-efficacy is the most important aspect, chances must be provided for individuals to raise overall entrepreneurial self-efficacy (Cahapay & Anoba, 2021; Bao & Shang, 2021).

Thus, both self-efficacy and perceived family support are important factors that influence entrepreneurial continuance intention. The study highlights the significance of family support for entrepreneurs and suggests that interventions aimed at improving self-efficacy and family support could lead to increased entrepreneurial success. Getting family, friends, and acquaintances more involved in the learning process is very important as a way to demystify their potential approval or disapproval of entrepreneurial success. The finding that perceived support from family members partially mediates the relationship between self-efficacy and entrepreneurial continuance intention suggests that family support could be an important target for interventions aimed at promoting entrepreneurial success. The model has moderate predictive relevance, with an R square value of 0.35. R square ranging between 0 and 1 exhibit different levels of predictive accuracy, although typically, value of 0.75, 0.50, or 0.25 can be categorized as significant, moderate, or weak, respectively (Hair et al., 2012).

Study 2: Qualitative Data Analysis

To understand the issues in women's entrepreneurship, Interviews were conducted with 20 women entrepreneurs. The women were identified using Linkedin and personal contact was established. The interview was conducted online with 20 women entrepreneurs and transcript was generated using recording in gmeet. The interviews were analysed using thematic analysis (Saldana, 2011). The interview questions revolved around three critical issues: first, the challenges women face as an entrepreneur; second challenges faced by women being women entrepreneurs to discover gender bias; and third, the support expected by women entrepreneurs. (refer Appendix 1). The inference is also presented in form of word cloud in Appendix 2.

Challenges faced as Entrepreneur

The women were interviewed to understand the challenges faced by them as an entrepreneur. Women listed prime challenges they faced as an entrepreneur: Capital generation and Utilisation issues, Entrepreneurial Challenges, Marketing Challenges, Supply chain issues, Strategic Challenges, Recruitment issues, and Personal and Social Challenges. The first issue was concerning Capital Generation and Utilization challenges. This theme identified obtaining investment as the main challenge. Entrepreneurs often struggle to find funding and investment capital essential for starting and running a business. This includes difficulties securing loans, grants, and other financial support.

"It is difficult to get fund, investment capital", Respondent

The second challenge faced by women were entrepreneurial challenges where they cited decision-making issues, lack of understanding of business and ethical concerns in business. Decision-making can be complex and overwhelming, especially when faced with a plethora of choices and the pressure to make the right decisions to ensure business success. Some entrepreneurs cited a lack of proper knowledge about business standards and the intricacies of running a business. Entrepreneurs also listed ethical challenges. Navigating the business world ethically and maintaining a strong moral compass can be challenging, especially when not everyone operates with the same principles.

Third main challenge cited as an entrepreneur were related to marketing challenges. Entrepreneurs found challenges in understanding the market, positioning the product correctly, determining the right price point, and developing effective advertising strategies are all significant challenges faced by entrepreneurs.

"Marketing is a problem, Choosing What to Sell, Marketing Strategy, Attractive Customers", Respondent

The fourth challenge listed by entrepreneurs was issues in supply chain. Maintaining a smooth supply chain, developing products that meet consumer needs, and ensuring good relationships with suppliers and vendors are critical aspects of a business's success, however, they were found to be problematic in managing. The fifth challenges surrounds issues of strategy. Proper planning and effective marketing within a limited budget are often significant hurdles for entrepreneurs. Sixth challenge was listed as problems in commencement of new business. Starting a new business is always challenging, but it tends to get easier as the business progresses.

"Starting new business is difficult, but as far as you go, things become easy.", Respondent

Seventh challenge mentioned by entrepreneurs was recruitment. Hiring talented staff and ensuring that the right people are in the right positions is a significant challenge faced by entrepreneurs. This also includes the ability to delegate tasks effectively.

Challenges faced as Women entrepreneur

The women were interviewed to understand the challenges faced by them as an entrepreneur. Women listed prime challenges they faced as women entrepreneurs. They listed four main challenges namely, personal and social challenges, self-doubt, lack of family /society support and gender biasedness. Amongst personal and social challenges women entrepreneurs cited self-efficacy and managing work life balance as important cause of concern. Women entrepreneurs often struggle with fear of failure, lack of business knowledge, self-doubt, and uncertainty. They also face challenges in dealing with criticism from others. Further. women entrepreneurs find it difficult to maintain a balance between their professional and personal lives. This includes managing time effectively and ensuring that family responsibilities are also met.

Some women reported self-doubts resulting from being left out, safety concern, lack of confidence and lack of family support. There is a fear of being ignored, not having ideas included in decision-making processes, and the challenge of managing work and family commitments.

"I have fear of ignorance, people around me do not include my ideas in decision making", Respondent

Ensuring a safe environment is a priority for women entrepreneurs, who believe they can achieve more success than other entrepreneurs. Further, Family issues and restrictions can be a significant barrier for women entrepreneurs. This includes a lack of support from family members, which can make it difficult to succeed in business. Some women entrepreneurs struggle with a lack of confidence, which can hinder business success. Women entrepreneurs need more social support, as they often face challenges in setting up and running a business due to societal expectations and norms. Women entrepreneurs often face gender bias and inequality, with some doubting their professional commitment and ability to succeed in a male-dominated society.

"10 years back, people looked at women entrepreneurs as failures from beginning. Now women can run business with more comfort.", Respondent

Support expected

The women were interviewed to understand their expectations in terms of support expected from family, employees and government. In case of family support, women entrepreneurs expect equality and support from their families, especially in sharing household responsibilities. In terms of financial support, they expect capital support as they believe the family can play a vital role by providing capital for startups. Family should show encouragement, understanding, care, and patience to boost the moral support. Having a supportive family that provides understanding and emotional backing is crucial provides emotional support. Further, encouragement and appreciation from family members act as a motivation for entrepreneurs.

In terms of employee support, women expect ethical behavior, sincerity, and empathy from them. Ethical behavior such as loyalty, professional excellence, flexibility, and agility are essential qualities expected from employees. Women entrepreneurs value sincerity, punctuality, and a lesser demand for holidays from their employees. They expect employees to help achieve business objectives by working cohesively and empathetically.

In terms of government support, Government Support entrepreneurs expect the government to simplify compliance requirements and frame adaptable and flexible government policies as per dynamic environment. Women entrepreneurs expect formulation of policies that are supportive of women entrepreneurs and MSME businesses. Entrepreneurs seek lower interest rates, family trade policies, tax incentives, and contract work opportunities from private companies. Women entrepreneurs expect the government to simplify registration and taxation processes.

6. Discussion

The study reveals that entrepreneurs, including women entrepreneurs, face multifaceted challenges. Key challenges for entrepreneurs include difficulties in securing investment capital, decision-making complexities, marketing intricacies, supply chain management, strategic planning, recruitment hurdles, and the initial stages of business. Women entrepreneurs encounter personal and social challenges, such as self-doubt, lack of family support, and gender bias. They expect support from family members in sharing responsibilities and financial backing. Additionally, they value ethical behavior and teamwork from employees. Entrepreneurs seek government support in the form of simplified regulations, adaptable policies, and incentives. Addressing these challenges and fostering a supportive ecosystem are crucial for entrepreneurial success. Participants express a strong desire for the establishment of a dedicated forum to support local women entrepreneurs. They emphasize the importance of family support for women entrepreneurs, advocating for equal encouragement and assistance as provided to their male counterparts. The recurring theme of equality underscores the call for gender parity and equal opportunities in entrepreneurship. Participants highlight the overarching significance of gender equality as a societal imperative. Lastly, the theme of education underscores the role of knowledge and exposure in enabling better business decision-making. These themes collectively reflect the participants' aspirations for supportive networks, gender equity, and the empowering effects of education in entrepreneurship.

7. Implications of the study

Academic Implications

The study assesses women's self-efficacy and their intention to continue. The results of this research will add to the body of knowledge, enhancing the theoretical foundation for women's entrepreneurial intentions. The addition of family support with self-efficacy gives great insights in to women' continuation intention literature. The previous studies on women entrepreneurs related to perceived social support, gender perception, education, creativity have significantly contributed to the entrepreneurship behavioural research. This work highlights the mediating role if perceived family support on entrepreneurial continuation intention. This study empirically validates the role of self-efficacy and perceived family support in the entrepreneurial intention. The findings of this study indicate the importance of self-efficacy and perceived family support in driving women in emerging economies such as India and have the potential to replicate at a global scale.

Managerial Implications

The study's outcomes suggest that self-efficacy and perceived family support are essential factors for entrepreneurial continuance intentions. Managers can focus on enhancing these factors to foster a supportive environment for entrepreneurs. To increase self-efficacy, managers can provide training programs and resources to entrepreneurs to build their skills and confidence in managing their businesses. Mentoring programs and peer support groups can also be established to provide emotional support and guidance for entrepreneurs.

In terms of perceived family support, managers can encourage and facilitate communication between entrepreneurs and their family members to build a stronger support network. Family members can be educated on the challenges and rewards of entrepreneurship and the importance of providing support for their loved one's business ventures.

Since a self-efficacy component is the also highly significant variable that influences women's entrepreneurial intent in this study, women must be fearless and determined to engage in entrepreneurial activities even though the majority of those who participated are their counterpart. Besides from that, self-motivated effort, especially in the area of developing knowledge, capabilities, and networks, is required by women entrepreneurs to survive and succeed in the marketplace.

Furthermore, the findings suggest that perceived family support mediates the relationship between self-efficacy and entrepreneurial continuation intentions. This shows how important it is for entrepreneurs to have a supportive social network, and managers can help build and strengthen this network. The research opens a new understanding about the role of self-efficacy in determining continuation intention of women entrepreneurs in India. It establishes that academic curriculum and training programs need to be designed by focusing on confidence-building cases, experiences and material. It helps various institutions to understand the importance of self-efficacy to engage, empower and to continue as with entrepreneurship pursuits in India.

Family support plays a very important role in the continuation intention of women entrepreneurs as it brings motivation naturally and hence mediates between self-efficacy and continuing intention. The trainers and engaged institutions may take a note and can develop modules for families of the women entrepreneurs to better their understand of bout their role in the continuation efforts.

8. Limitations of the study and future research

The research has following limitations that should be considered while generalising the result. Firstly, causality cannot be demonstrated because of the cross-sectional methodology used in the study. Longitudinal or experimental designs would be more appropriate to establish causal relationships between the variables. Secondly, the study relied on self-reported data, subject to response and social desirability biases. Participants may have provided answers they believed would be viewed favourably, which could have affected the outcome. Thirdly, the study only focused on self-efficacy and family support as predictors of entrepreneurial continuance intention. Other factors such as personality traits, experience, and social networks may also be essential predictors and should be considered in future research. Finally, the research was carried out in a particular cultural context and may not be generalizable to other contexts. Future research should consider conducting the study in different cultural contexts to determine if the results are consistent across different populations.

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Exploring Linguistic Hedges and Gender Equity in Academic Discourse of Commerce and Management Studies

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Abstract

Purpose: Stylistics is the study of styles in spoken and written languages. It is used to explore how language is used and how the author affects the meaning of the text. Hedges are important features of stylistics because they create a literary impact and convey deeper meaning to the reader. These are words or phrases used by writers to add ambiguity or uncertainty to literature or conversations, thereby representing probable fact, indecision, or caution. Hedges are used to reduce the effect of bragging and soften the impact of utterance with politeness, making them markers of uncertainty or etiquette in language usage. The use of linguistic hedges, like other linguistic constructions by male and female authors, may reflect certain traits or behaviors that mark their identity. Therefore, their usage may reflect gender-based disparities, cultural biases, and communicative inequalities in written academic discourse. This study examines how linguistic hedges are utilized by male and female authors in academic writing, particularly in management studies in India, and focuses on their potential impact on inclusivity, accessibility, and gender equity.

Methodology: A mixed approach employing quantitative and qualitative is used for the analysis of a corpus text of 40 research articles (20 authored by males and 20 by females) of management studies in Indian context. The frequencies and patterns of hedging words used by male and female authors were examined using the AntConc tool and compared qualitatively.

Significance of the study: Through this study the author contributes to ongoing efforts to address gender biases, promote inclusivity, and advocate for diversity and gender equity in language usage for academic writing. In addition, this study provides valuable insights into the diverse ways language is used, offering a better understanding of the nuances of gendered language use.

Keywords: linguistic sexism, gender equity, inclusivity, gendered language. Sociolinguistics, AntConc.

1. Introduction

Language plays a pivotal role in facilitating effective and meaningful communication among the audience. Communication is not merely the transmission of text; it is also the conveyance of the underlying meaning of text. Crafting impactful and compelling messages to convey implicit and explicit meanings involves the strategic use of textual and lexical devices. One such device is hedges, which are utilized by the authors to introduce uncertainty into their utterances or literature. Lakoff (1973) introduced the concept of hedges. According to him, hedges are words that make things fuzzier. Additionally, Hyland (1996) points out that hedges are used in academic writing to express tentativeness or the possibility of representing unproven prepositions. Hedges perform various functions. acting not only as representations of probable facts, indecisiveness, or caution but also as markers of politeness and etiquette in language use. Various authors have contributed to the knowledge of linguistic hedges by identifying and classifying them into different categories. Some of the notable classifications include: -

1. Salager-Meyer (1994) : - She in her study "Hedges and Textual Communicative Function in Medical English Written Discourse" classified the hedges on the basis of their formal and functional use. The main types are: -

a) Sheilds (modal verbs), plausibility shields and epistemic verbs.

b) Approximators

c) Expressions
d) Intensifiers
e) Compound hedges.

2. Ken Hyland (1996) : - classified hedges into content-oriented and reader-oriented hedges. Content-oriented hedges are classified as accuracy-oriented and writer-oriented hedges. He classified accuracy-oriented hedges into attribute markers (agree, prefer, unfortunately, hopefully, appropriate, logical, remarkable, etc.) and reliability (modal auxiliaries, full verbs, modal adverbs, adjectives, and nouns as possible, might, perhaps).

3. Hinkel (1997): - A comprehensive taxonomy of hedges was given by Hinkel in 1997. Her taxonomy highlights the following types of hedges:
(a) Epistemic Lexical Verbs such as believe, think, and assume.
(b) Adjectives and Adverbs of Probability and Frequency: e.g., probable, likely, often, sometimes.
(c) Introductory Phrases: statements of caution, for example it is possible that there is a chance that.
(d) Questions: Used to introduce uncertainty (e.g., Could this be due to...?).
(e) Quantifiers: Used for uncertainty in quantity (e.g., several, some, and many).

4.Varttala (2001)- Another taxonomy was given by T. Verttala. He provided the following categories of hedging:
a) Nouns: probability, possibility, likelihood, potential, trend prediction, implication, proposal, argument hypothesis, assessment, assumption, belief, and estimates.
b) Adjectives: - probable, likely, often.
c) Full Verb - argue, predict, imply, suggest, propose, assume, speculate, think, believe, estimate, evaluate, tend, appear, seem, and look.
d) Modal verbs - may, might, can, could, would, will, should.
Hedges are emerging components of linguistics and are classified differently by different authors.
Some common types of hedges identified in English language are
1) Modal Verbs
Examples: might, may, could, would
2) Adverbs of Probability
Examples: possibly, probably, likely
3) Adjectives of Probability
Examples: possible, probable, likely
4) Quantifiers
Examples: some, many, few
5) Expressions of Frequency
Examples: often, sometimes, usually
6) Cautious Phrases
Examples: it seems that, it appears that, it is possible that
7) Approximators
Examples: about, approximately, around
8) Clauses of Limitation
Examples: to some extent, in some cases, under certain conditions
9) Tentative Verbs
Examples: suggest, indicate, imply
Many authors around the world are writing and publishing their research articles or papers; each has the autonomy to select words or phrases that make the texts written differently. Lakoff (1973) states that the language used by women reflects their powerlessness, as their speech lacks confidence and shows uncertainty. Holmes (1986), found that men used hedges to convey uncertainty, while women used them to convey confidence, which is contradictory to what Lakoff stated in her article. The use of linguistic hedges, like other linguistic constructions by male and female authors, may reflect certain traits or behaviors to mark their identity. Therefore, it is interesting to investigate how male and female authors utilize

textual devices, such as hedges, to craft their content impactfully and engagingly. Understanding the language patterns and communication styles used by male and female authors can help shed light on gender disparities in this realm

2. Review of the Literature

Previous studies of many authors have highlighted the linguistic differences between male and female authors in using linguistic devices such as hedges. The articles of Applied Linguistics written by female authors were found to be more hedged than those written by male authors. Thus, hedging primarily denotes femininity (Bathaie and Ansarin 2011). In addition, Serholt (2012) investigated gender differences in the usage of hedges and boosters in the academic writing of advanced Swedish learners of English. The study revealed that male learners used more hedges than female learners in their academic writing, whereas female learners used more boosters than male learners. This suggests that female learners are more inclined to make commitments with more confidence than are male learners. However, the author also concluded that, there was no significant gender difference found in the study. Similarly, Mohamad and Sahib (2014), revealed that male speakers used more hedges than female speakers in TV debates titled Doha debates aired on BBC, implying that males are more flexible in their speeches than females. Furthermore, Mohajer and Jan (2015) revealed that men prefer to speak in a forceful manner and do not want to look foolish when they provide personal information or express uncertainty about something, for which they prefer to use hedges. Contrastingly, Rosanti and Jaelani (2016) in their study highlighted the differences in choosing lexical hedges by male and female students in English debates. This study showed that female students used more hedging words than did male students in the debate. Female students used hedges to give longer opinions, whereas male students gave brief opinions on the topic of the debate. Similarly, Rahadiyanti (2017) analysed the women language features in Tennessee William's paly called A Streetcar Named Desire and found that the dialogue of the main female characters used lexical hedges more frequently, reflecting lack of confidence. Also. Namaziandost and Shafiee (2018) contrasted how men and women utilize lexical hedges in academic spoken language and found that female respondents use more lexical hedges and provide longer opinions on debate themes, whereas men tend to give concise opinions on the same. These findings are also in line with those of Du (2021) who analyzed the frequency and distribution of hedges In BNC spoken texts and investigated how their usage varies with the gender of the speaker. The study revealed that females use hedges more frequently than male speakers. Ashcroft (2020) concluded that there were no differences in hedging frequencies based on the gender of participants. In the study by 66 applied linguistics, articles were analyzed to evaluate the assertions made by Lakoff in her article "Language and Women's Place." Contrary to the Lakoff assertions, the author found that hedges were more frequently used in articles written by males than in articles written by women. The study investigated significant gender differences in the use of hedges by consulting five different studies based on the hypothesis given by Lakoff in her article. The results of this study shows that there is no significant difference in hedge use between men and women. In some situations, women may use hedging words more frequently than men do, but not in others. However, Ajmal (2023) found that female native English writers utilized hedges more frequently than their male counterparts.

Many authors have studied the use of hedging in a variety of discourses, disciplines, and contexts, in which hedging is most common in linguistic and social texts. However, their utilization in texts from other disciplines such as engineering, medicine, and management has also been studied by several authors. Ignacio (2010) and Mur-Dueñas (2017) studied the use of modal verbs in a corpus of business management research articles. Elheky (2018) compared the frequency of hedging in social and business texts and found that the use of hedging words is more frequent in social articles than in business articles. It has been pointed out that despite being a scientific genre where authors are less doubtful about their findings, hedges are also used in the management discipline. While Several studies by many researchers have examined gender disparities in this realm, it seems that studies on using hedges by males and females in the context of management studies remain untouched. By addressing this gap, our study seeks to contribute to a comprehensive understanding of gender equity by exploring the use of hedges by male and female authors in academia, particularly in management discourse. Therefore, it would be interesting to investigate how linguistic hedges are utilized by male and female authors in the academic publications of management studies in India.

3. Research Questions

RQ1.What are the differences in the hedging frequencies used by male and female authors in management studies?

RQ2. What percentage of male and female management studies authors use hedges?

RQ3. What types of hedging words are preferred by male and female authors of the management discourse?

RQ4. How do social factors influence the use of hedges by male and female management studies authors?

4. Methodology

This study uses a comprehensive corpus of text extracted from research papers written by Indian authors in the field of management studies. Total 40 papers were selected for this study from renowned Indian journals of management studies.20 articles were written by female authors and 20 were written by male authors. The frequencies and patterns of hedging words used by male and female authors were examined and compared using both quantitative and qualitative approaches. The quantitative approach involved the collection of statistical data for frequencies of hedging words, while a qualitative approach was used to explain the similarities and differences observed in the usage of hedging words by male and female authors of management studies. AntConc corpus analysis tool was used to determine the frequencies and concordance of hedging words used by male and female authors. Dominance theory by Spender (1980) served as the theoretical framework for this study.

Data Collection: - No data collection tool was used in this study. Forty academic papers were randomly selected by searching online for renowned Indian journals in management studies. A list of the selected papers is provided in Appendix I.

The research papers were segregated into two sets: one set of papers authored by men and another set of papers authored by women. The papers in each group were then converted into text format and combined section-wise (e.g., introduction of all papers combined into a single file). The text files were uploaded to the AntConc corpus tool for further analysis. All sections, except the methodology, were selected for the scanning of hedges. Since the methodology section is technical, it is assumed by the author that it may contain a negligible number of hedges or no hedges. Therefore, this section of each paper has been omitted from inclusion in the text corpus. Abstract, Introduction, Literature Review, Results and Discussion, and Conclusion sections were considered for scanning hedges. Although a software application was used for the analysis of the data, manual scanning and evaluation were sometimes performed when needed.

Hedges under consideration in this study are as follows: -

1) Modal verbs: - may, might, could, should, shall, can, and tend.
2) Adverbs: - probably, perhaps, possibly, likely, maybe, and rarely, obviously.
3) Adjectives: - probable, possible, likely.
4) Tentative Verbs: - suggest, indicate, imply, seem(s), appear(s), think, conclude/concluded, inferred.
5) Cautious Phrases: - it seems that, it appears that, it is possible that, I believe that.

5. Data Analysis and Discussion: -

The following hedging devices were examined using the AntConc. AntConc screenshots are presented below. It is not possible to include all the screenshots here, so few of them are included below. However, for detailed results, the tables given in Annexure-II can be accessed.

Modal verbs: - may, might, could, should, shall, can, tend.

This group consist of 'may', 'might', 'could', 'should', 'shall', 'can', and 'tend.' Each of these words was searched separately for both male and female authors. In the case of female authors, 255 concordance hits were found for selected modal verbs, of which 51 instances were found to be out of context (non-hedged) by carefully checking the text manually. In the case of male authors, 431 concordance hits were found and 71 occurrences were found out of context. The modal verb 'can' was identified as being out of context in these instances. It was found that male authors in the field of management studies prefer to utilize more modal verbs for hedging purposes in their academic writing. Among them, 'may', 'should' and 'can' were preferred by both male and female authors. However, these modal verbs were used significantly more by male authors. These findings are consistent with those of Ajmal (2023) He suggested that males used the modal verb 'might' more than women, and hence showed doubtful and uncertain attitudes. Hassan (2019) found that the number of epistemic modals used by male politicians was greater than that of female politicians. These findings contradict the study of Namaziandost and Shafiee (2018), which indicated that females used more modal verbs than their male counterparts in discussions. Similarly, Ali and Shakir (2022) revealed that females used more modal verbs than male column writers.

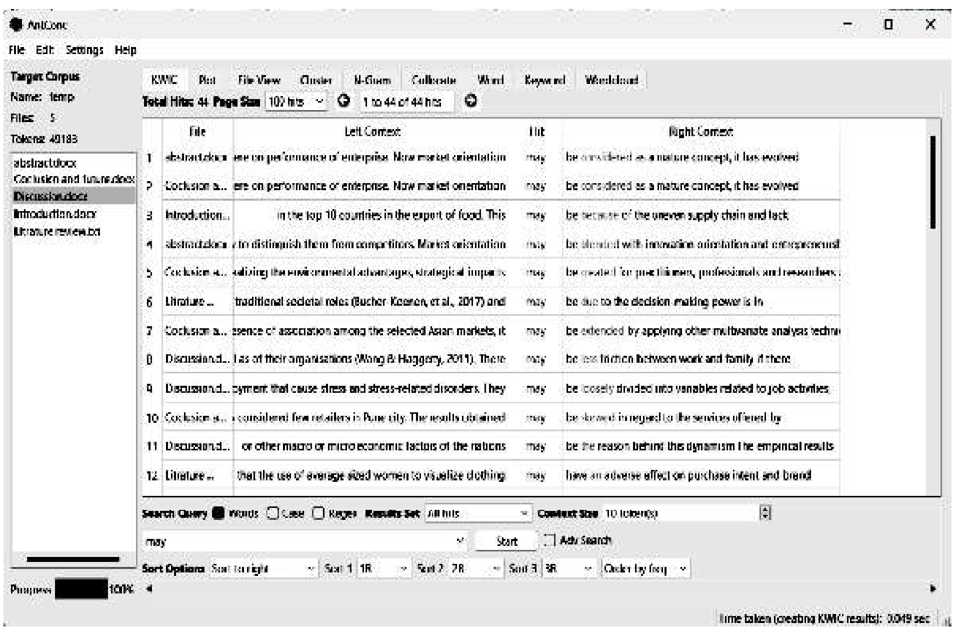


Figure 1. (a) may' used by female authors

Figure 1. (b) may' used by male authors

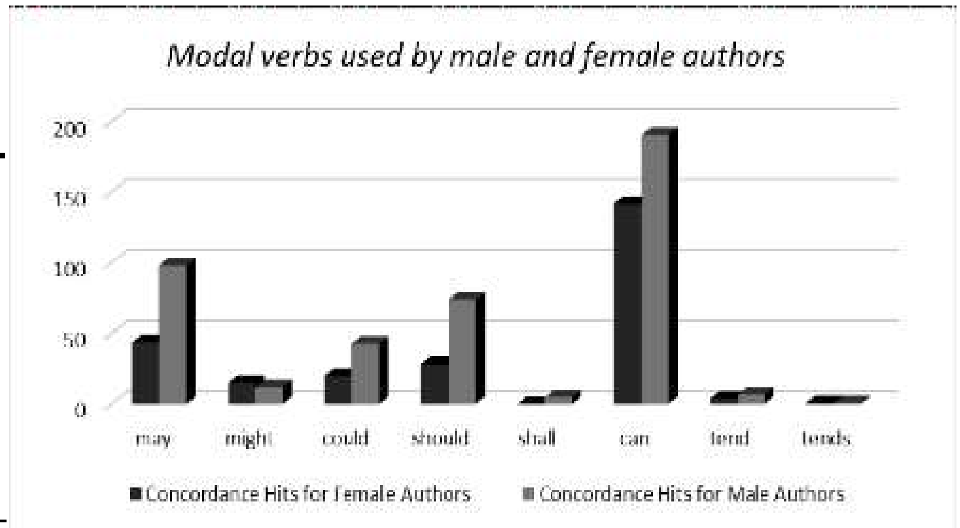


Figure 2.
Modal verbs used by the authors

Adverbs: - probably, perhaps, possibly, likely, maybe, rarely, obviously
The second group of hedging words consists of adverbs. Each word of this group was searched in the corpus and found that most of the time adverb 'likely' was used by both male and female writers. However, male writers preceded female writers in utilizing 'likely' in their academic text. Also, the finding shows that male writers have used the word 'perhaps' which was not found in the text of female authors. The word perhaps represents possibility or uncertainty. Sometimes it may be used to prevent hesitation. This result shows that the male authors might used 'perhaps' to soften their statements and to avoid being more assertive. The study of Ali and Shakir (2022) is contradictory to these findings, as they suggested that female writers utilized more adverbs as hedges in their writings. Similarly, this study contradicts the findings of Ajmal (2023), suggesting that females used comparatively more adverbs like 'certainly' and 'perhaps' than males.

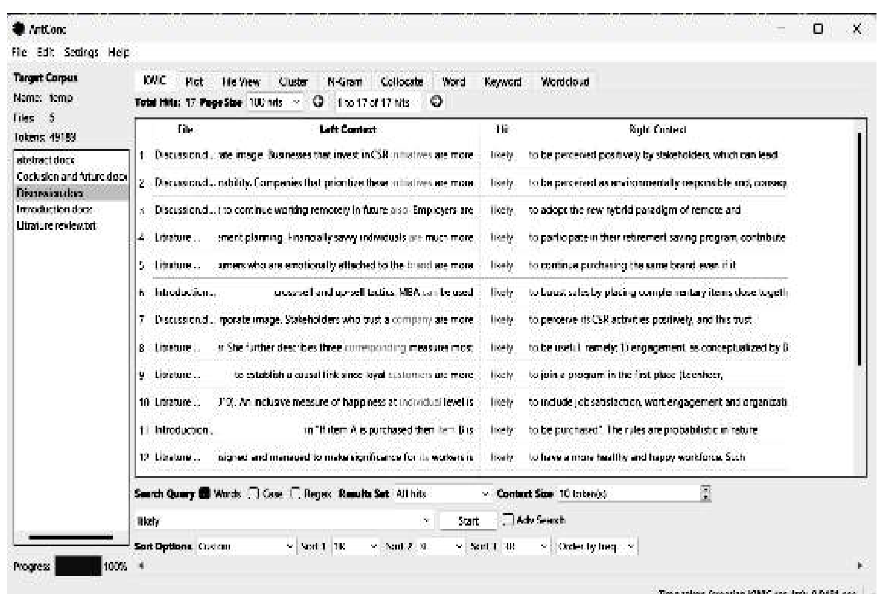


Figure 3. (a)
'likely' used by female authors.

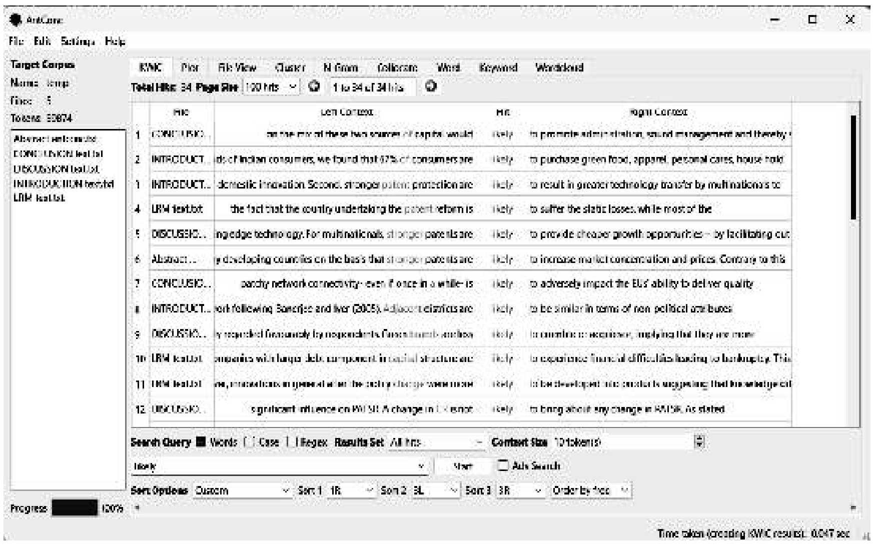


Figure 3. (b)
likely' used by male authors.

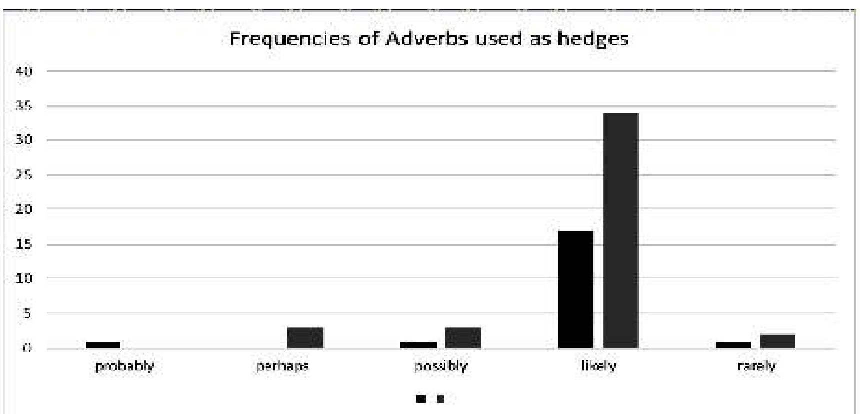


Figure 4.
Adverbs used by authors.

Adjectives: - probable, possible.

The third group of hedging words consisted of adjectives. Two adjectives that were under consideration for this study were 'probable', 'possible'. The analysis revealed no significant difference in the usage of adverbs by male and female authors. However, a notable distinction was shown by the result in the usage of the word 'probable'. Female authors used 'probable' in their writings, while no such inclination was observed in the selected text of the male authors.

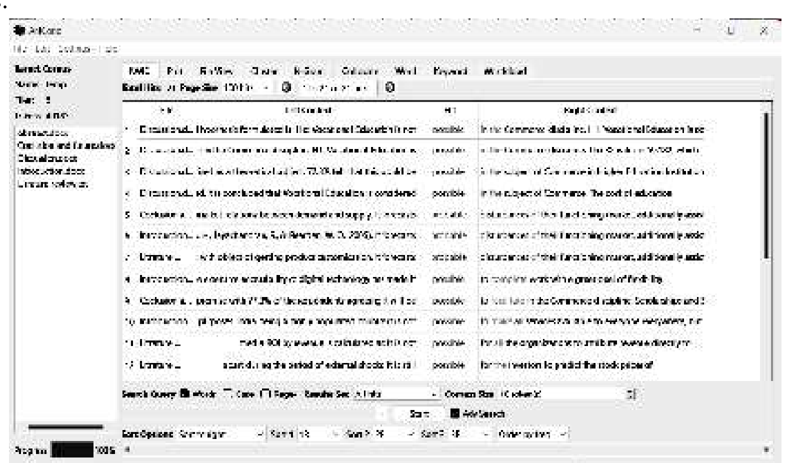


Figure 5. (a)
'probable' and 'possible' used by female authors.

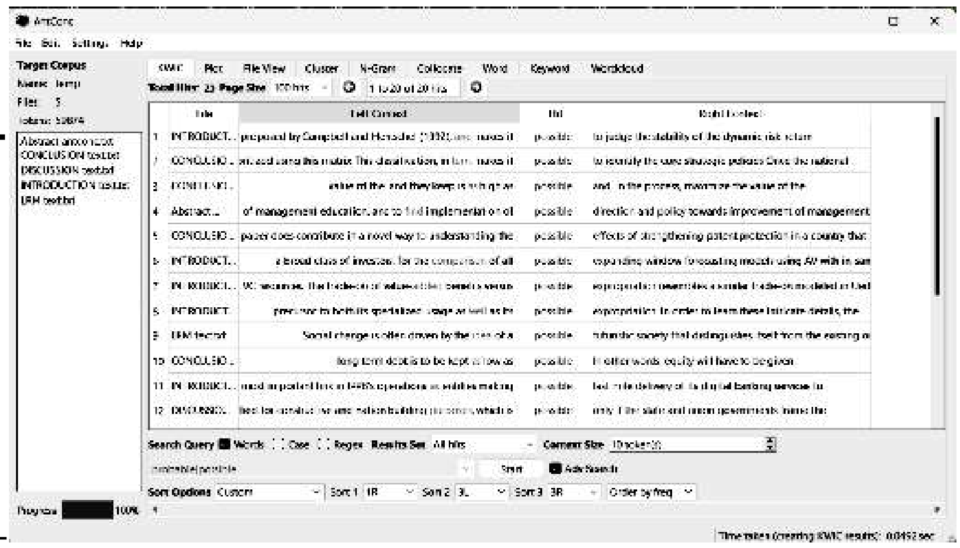


Figure 5. (b) probable' and 'possible' used by male authors.

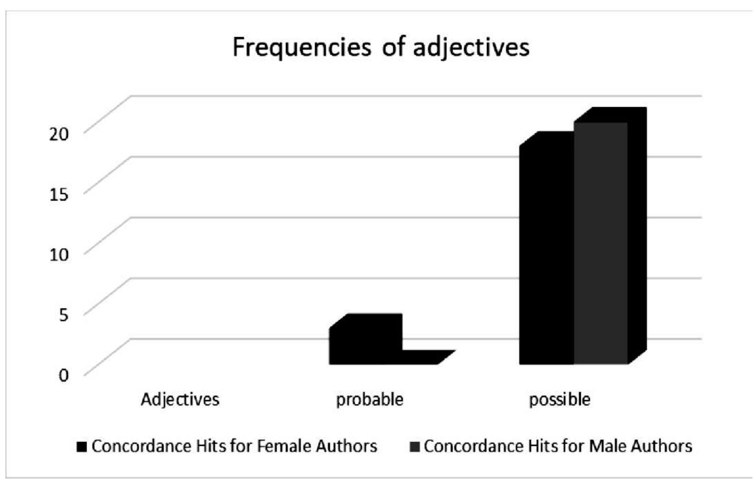


Figure 6. 'probable' and 'possible' used by male and female authors

Tentative Verbs: - suggest, indicate, imply, seem, appear, think, conclude/concluded, inferred. Analysis of this group of hedging words revealed that the female authors used more tentative verbs in their academic writings than male authors. The most frequent words in the female author's text were 'conclude' and 'concluded' (21 occurrences). However, male authors seem more inclined than female authors towards using 'appear' and 'seems' in their academic writings. This indicates that women prefer to keep their claims tentative and open to alternative explanations. They might use these words to be preventive in making an outright claim while keeping a tone of seriousness. These findings are different from the findings of Bathaie and Ansarin (2011), who suggested that female authors used significantly more tentative verbs than their male counterparts.

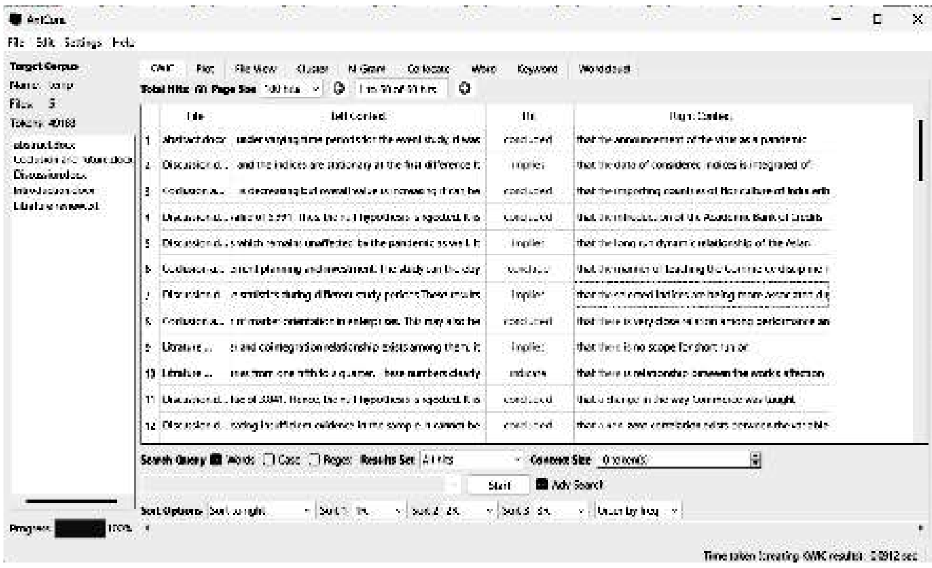


Figure 7. (a) Tentative verbs used by used by female authors.

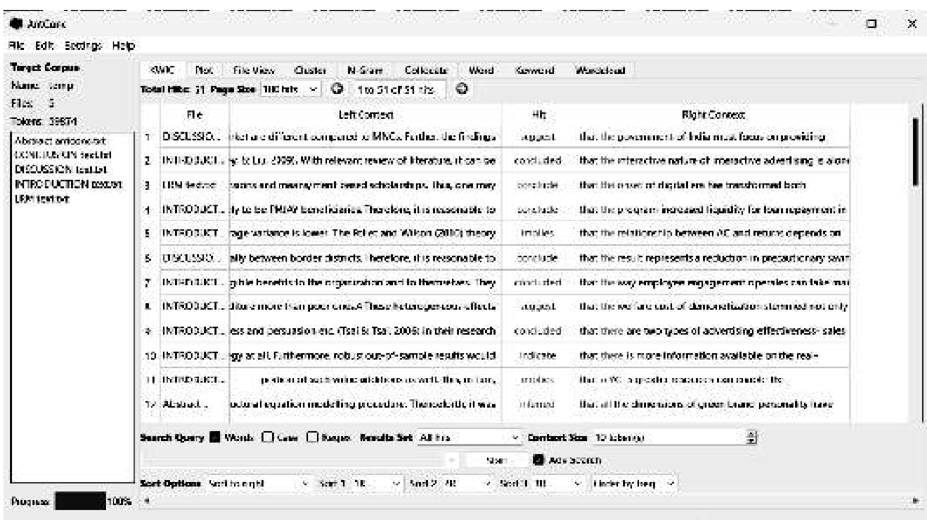


Figure 7. (b) Tentative verbs used by used by male authors.

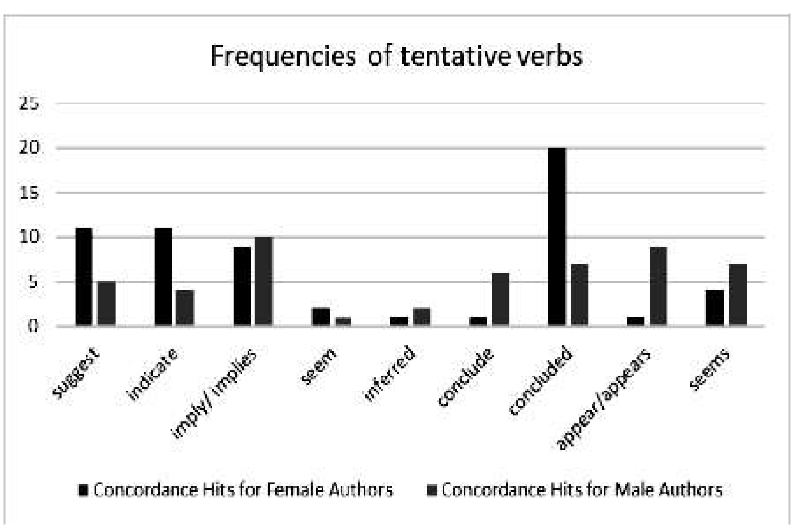


Figure 8. Tentative verbs used by used by male and female authors.

Cautious Phrases: - it seems that, it appears that, it is possible that, I believe that.

The analysis of cautious phrases revealed that male authors used more cautious phrases (6 occurrences) than female authors (2 occurrences). The results also revealed an important difference: the phrases 'it is possible that' (2 instances) and 'it seems that' (1 instance) were used only by male authors.

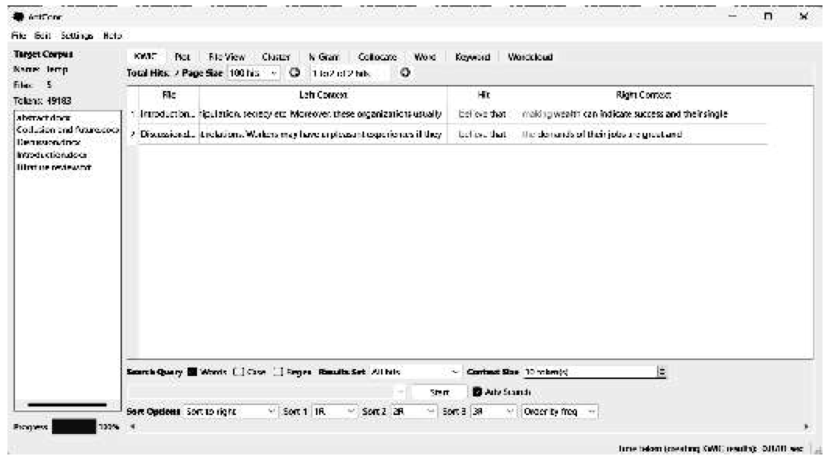


Figure 9. (a)
Cautious phrases used by used by female authors

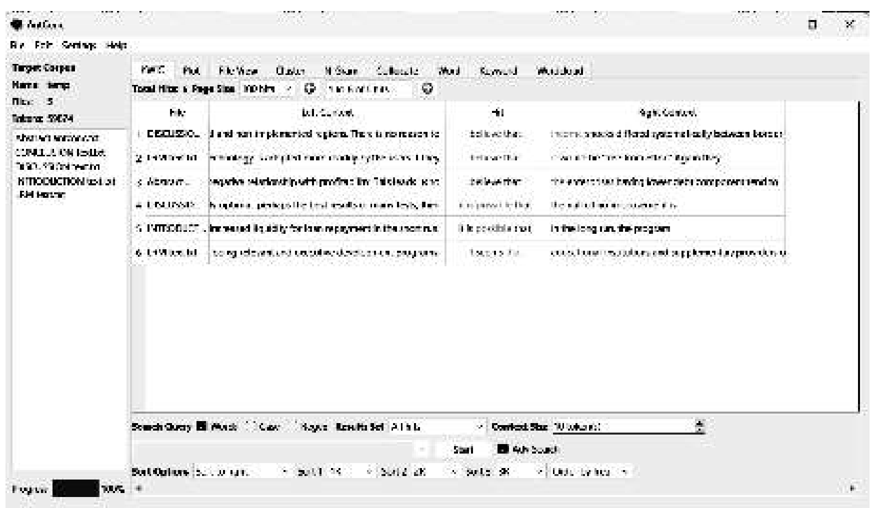
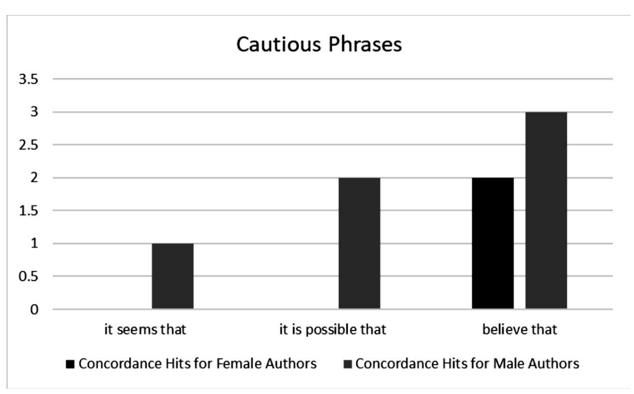


Figure 9. (b)
Cautious phrases used by used by male authors.



Male authors use a total of 550 hedging devices, while female authors use 358, suggesting that male authors of management studies tend to use more hedges than women. Also, male authors used modal verbs significantly more than female authors. While the female authors showed moderate use of adjectives and tentative verbs. The analysis of cautious phrases showed distinct choices between male and female authors. The male authors used more cautious phrases than the female authors, indicating a more cautious approach to stating their claims. All these findings contradict Lakoff (1973) claim that women prefer to use hedging and other similar components like intensifiers, polite words, etc. because of their unequal status and powerlessness as compared to men. Serholt (2012) also supports our findings, as they suggested that male students were more inclined towards utilising hedges than their female counterparts. Although a study Mirzapour (2016) found no significant difference regarding the use of hedging devices among male and female authors of applied linguistics, Namaziandost and Shafiee (2018) found that female respondents used more hedging than male respondents, which contradicts the findings of this study. Similarly, the findings of Hassan (2019), suggesting females were more inclined to use frequent hedging strategies as compared to their male counterparts, are not in line with our study. However, Daryaee Motlagh (2021) corroborates our findings by suggesting that men's articles were found to be more hedged than female writers.

6. Conclusion

The study aims to investigate how male and female authors utilise hedging strategies in academic writing in the field of management studies in India. The findings of this study revealed that male authors of management studies are more inclined towards utilising hedges in their writings as compared to female authors. The variations in the utilisation of hedging devices could reveal more complex inequalities in the writings of males and females. In management, decision-making is often uncertain. Male authors might have used modal verbs like 'may' and 'can' to unearth various outcomes. The evidence that female authors used more tentative verbs to express politeness and indirectness may be an indication of an inclination towards cultural implication generally expected from a female in an Indian setting. Also, a balanced use of adjectives like 'possible' and 'probable' by female authors may be an indication of a careful approach to risk dilution, which may be affected by social and cultural aspects. Therefore, we can conclude from the findings of the study that social aspects like politeness, assertiveness, and cautiousness may affect hedging strategies in the context of management studies in India. Female authors tend to use more cautious and tentative language, which reflects the cultural expectation of politeness and risk mitigation. Male authors used more modal verbs and balanced adjectives, indicating assertiveness and handling uncertainty and complexity in academic writing. The understanding of these differences and the nuance of hedging by male and female authors of Indian management studies can help in making academic writing in this field more inclusive and easier to understand by everyone.

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Integrating Indian Knowledge Systems with Homestay Tourism to Achieve Sustainable Development Goals for Hill Communities in Uttarakhand

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Abstract

Purpose: This study evaluates the role of homestays in advancing Sustainable Development Goals (SDGs) while integrating principles from Indian Knowledge Systems (IKS) to highlight sustainable homestay tourism as a driver of economic development within the hill communities of Uttarakhand.

Design/Methodology/Approach: A comprehensive primary survey employing fieldwork methodology was conducted to understand the relationship between various factors shaping the economic trajectory of rural regions viewed through the perspectives of homestay entrepreneurs who incorporate traditional knowledge and practices rooted in IKS.

Findings: The study reveals the economic impacts of homestays by highlighting their role in poverty alleviation, livelihood diversification and local economic empowerment. Drawing on the principles of Vasudhaiva Kutumbakam (The World is One Family) and Atithi Devo Bhava (Guest is God), homestays are nurturing social sustainability through rural infrastructure development, utilization of indigenous products and enhancement of social cohesion. Environmental sustainability emerges as a critical facet with findings revealing further emphasis on waste management practices and sustainable technologies to resonate with traditional Indian values of living in harmony with nature.

Research limitations/implications: The scope of the study is related to Uttarakhand and future research should explore similar dynamics in other regions to validate and generalize the findings.

Practical/Research Implications: Supporting homestay entrepreneurs and investing in rural infrastructure can significantly enhance economic opportunities, social cohesion, and environmental sustainability aligned with the holistic approaches of Indian Knowledge Systems.

Originality/Value: This study offers unique insights into the economic, social and environmental impacts of homestays in hill areas of the Himalayan region.

Keywords: Sustainable Development Goals (SDGs), Economic Growth, Homestays, Social Empowerment, Environmental Sustainability, Indian Knowledge Systems (IKS).

1. Introduction

Tourism is crucial for making progress towards accomplishing Sustainable Development Goals. The importance of tourism was officialized during the announcement of the 2017 International Year of Sustainable Tourism for Development (United Nations, 2018). Tourism is realized as a route for sustainable economic expansion for developing countries (Scheyvens and Laeis, 2019) because tourism can contribute to poverty reduction and sustainable economic growth (Saarinen and Rogerson, 2014). In the framework of the SDGs, SDG 1 aims to end poverty in all types of appearances by the year 2030. A decent working environment and job opportunities are important to ease poverty and encourage sustainable livelihood development through tourism (Bramwell et al., 2017). The most used definition of poverty relates to the level of income. In this regard, tourism can contribute by promoting economic growth via job creation and opportunities to establish businesses at local levels. The requirement of low-skilled and local occupations is more accessible to the deprived and vulnerable offered by the tourism sector (World Tourism Organization, 2023). With initiatives

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like the ST-EP which stands for Sustainable Tourism-Eliminating Poverty program developed by the World Tourism Organisation (WTO), sustainable tourism can be a fundamental tool in reducing poverty in rural regions (WTO, 2002). "Sustained, inclusive and sustainable economic growth" is the main objective of SDG 8, which also places a strong emphasis on "full and productive employment and decent work for all." (UN, 2019).

Homestay tourism is one of the many factors that contribute to global economic growth and is perceived as an effective sector for achieving economic progress in developing countries (World Tourism Organization, 2023). Homestay is a sort of accommodation enterprise that promotes the community-based tourism (CBT) idea, which emphasizes community involvement in all stages of the process from idea generation to planning, execution, management, monitoring, assessment and benefit sharing (Schott and Nhem, 2018). The homestay is a community-based enterprise (CBE) that can lead to improvements in local infrastructure including healthcare, transportation and communication systems thus economically benefitting the community (Manyara and Jones, 2007). CBT through homestay is seen as promoting local participation, empowerment and decision-making processes that align with the objectives of SDG8 (Duffy, 2002). CBT is often regarded as a potential contributor to Sustainable Development Goals particularly SDG1 (No Poverty) with SDG8 (Decent Work and Economic Growth) as it has been posited that CBT initiatives can facilitate job creation and enhance localized economic connections to mitigate economic leakages (Lopez-Guzman et al., 2011; Lapeyre, 2010; Manyara and Jones, 2007). Community-based tourism (CBT) holds promising potential for enhancing the socioeconomic landscape of rural areas offering numerous benefits to the local community. One of the foremost advantages lies in its economic contributions which play a key part in fostering rural economic development and combating poverty (Goh, 2015). Scholars such as Salazar (2012) have extensively documented how CBT initiatives generate economic opportunities for residents by stimulating tourism-related enterprises such as homestays, local handicrafts and culinary ventures nurturing entrepreneurship and job creation. Community-based tourism (CBT) including homestay initiatives, can be effectively linked with the Vedic period practices as described in the early mandalas of the Rigveda. In the Vedic tradition the term "Sabha" was used for an assembly with various functions related to community governance and justice implying that community governance involved active participation and delegation of roles (Bhatnagar, 1932). The historical practices of communal decision-making, justice and economic benefit-sharing in the Vedic period offer a valuable framework for contemporary homestay tourism practices that prioritize community involvement and local empowerment. This linkage provides a historical foundation for understanding how contemporary community-based tourism aligns with ancient Indian Knowledge Systems.

The study addresses a critical gap in the homestay tourism economics literature by investigating the role of homestays in supporting sustainable livelihood generation and aligning with Sustainable Development Goals (SDGs) while integrating principles from Indian Knowledge Systems (IKS). While previous research has emphasized the economic contributions of homestays to rural areas, there is limited understanding of their impact on sustainable livelihoods with SDGs incorporating IKS. The study aims to explore how homestays contribute to economic development, poverty alleviation and the promotion of decent work while adopting IKS and aligning with SDG1 and SDG8. The study explores the economic, social and environmental components of homestays to gain insight into their broader implications for sustainable development and community resilience. The study incorporates traditional Indian practices and philosophies that advocate for self-sufficiency and local governance as seen in the Arthashastra and Sabhasystems (Bhatnagar, 1932) which align with the principles of community-based tourism. The integration of IKS into this investigation highlights the economic benefits with the social and environmental impacts drawing on ancient Indian principles such as Vasudhaiva Kutumbakam (world is one family) and Atithi Devo Bhava (guest is God) which emphasize hospitality, community welfare and harmonious coexistence with nature (Warrier,1953). These historical frameworks underscore the importance of community participation, equitable resource management and sustainable economic practices, which are critical for achieving the SDGs.

The study incorporates the following objectives:

1. To analyze how homestay enterprises contribute to economic development, poverty alleviation, and the promotion of decent work, aligning with SDG1 (No Poverty) and SDG8 (Decent Work & Economic Growth).
2. To examine the economic, social, and environmental dimensions of homestays to understand their broader implications for sustainable community development.
3. To integrate principles of Indian Knowledge Systems (IKS), including indigenous governance models (as reflected in the Arthashastra and Sabha systems), and explore their relevance to community-based tourism.

Table 1.
Alignment between selected Sustainable Development Goals (SDGs) with associated targets and the potential for sustainable livelihood generation through homestays incorporating IKS

Sustainable Development Goal	Selected Targets related to community-based tourism	Sustainable livelihood generation through Homestays
Goal 1: No Poverty	1.1 a. Mobilize resources to implement policies to end poverty b. Create pro-poor and gender-sensitive policy frameworks 1.2 a. Reduce poverty by at least 50% b. Business development 1.5 Crisis management	Tourism value chains are created by homestays with other businesses related to tourism. Homestay guidelines and policies are formulated to reduce income and gender inequalities. Homestays support entrepreneurship development. Homestays promote the skill development of communities. Reduction in migration due to income incentives of homestays.
Goal 8: Decent Work and Economic Growth	8.4 Improve resource efficiency in consumption and production 8.5 Full employment and decent work with equal pay 8.9 Promote beneficial and sustainable tourism	Homestays adopt waste management practices with the use of renewable energy. Homestays are based on the concept of local community participation. Homestays create opportunities for employment of local community members and promote local products.

Source: Author's computation (SDGs and Targets based on World Tourism Organization, 2023).

2. Review of literature

2.1. Community-based tourism through homestays

Murphy (1985) first introduced the concept of community-based tourism (CBT), examining how tourism is managed by local communities in developing nations. Community-based tourism (CBT) holds promising potential for enhancing the socioeconomic landscape of rural areas offering numerous benefits to the local community. One of the foremost advantages lies in its economic contributions, which play a pivotal role in fostering rural economic development and combating poverty (Goh, 2015). Scholars such as Salazar (2012) have extensively documented how CBT initiatives generate economic opportunities that trickle down to residents by stimulating tourism-related enterprises such as homestays, local handicrafts and culinary ventures to motivate entrepreneurship and job creation (Kayat, 2010). Goodwin and Santilli (2009) recognised that homestays fulfill a practical need for travelers seeking lodging within CBT destinations, emphasizing their integral role in the tourism experience. They epitomize an immersive and authentic experience for tourists providing more than just accommodation by offering a glimpse into local life through activities but also as a vital component in fostering cultural exchange and supporting local economies. Homestays are increasingly recognized for their potential to confer advantages upon specific owners with the broader community to amplify access to economic opportunities (Basak et al.,2021). The operation of homestays not only generates additional family income but also holds the potential to enhance broader livelihood prospects including access to crucial services such as healthcare and education (Shukor et al., 2014). Cash inflows derived from sources like tourism expenditures, play a crucial role in strengthening household food security and overall economic resilience (Ashley, 2000). There remains a substantial knowledge gap concerning the comprehensive effects of homestays on the sustainable source of revenue of homestay entrepreneurs and the host communities despite the recognized significance of homestays within the CBT framework and their implicit role in fostering rural sustainable development (Sen and Walter, 2020).

2.2 Homestays supporting sustainable livelihood generation

Sustainable livelihood involves the skills, resources and activities necessary to support a source of sustenance (Chambers and Conway, 1992). Sustainability in livelihoods entails the ability to endure adversities and disruptions while augmenting its capacities and resources without compromising the integrity of natural resources. The principle of sustainable tourism underlines the imperative of judicial use of environmental resources to support tourist development while concurrently upholding ecological integrity and safeguarding natural heritage and biodiversity (Guide, 2005). By fostering long-term economic viability and equitable distribution of benefits among stakeholders, sustainable tourism endeavors to create a balance between economic progress and environmental conservation. Consequently, Homestay tourism has emerged as a critical strategy within the sustainable tourism framework as it offers a multifaceted approach to achieving lasting environmental, socio-cultural and economic progress (Okazaki, 2008). This entails not only utilizing resources responsibly but also ensuring the preservation of indigenous cultural practices and traditions within host communities (Guide, 2005). By integrating tourists into local communities and empowering residents to participate in tourism activities, homestay tourism endeavors to minimize negative environmental impacts while maximizing socio-economic benefits (Kunjuraman and Hussin, 2017). This holistic approach boosts the tourism practice and strengthens community resilience and fosters sustainable development. Considering a sustainable economic perspective, homestay is observed to improve economic opportunities for communities (Lama, 2013). Pasanchay and Schott (2021) highlighted the importance of adopting sustainable practices in homestay operations to maximize economic benefits while fostering community development and well-being. The concept of sustainable livelihood generation through homestays yields benefits not only for individual homestay entrepreneurs but also for the economic growth of the locals living around it (Acharya and Halpenny, 2013). Despite the essential role that homestays play in sustainable livelihood generation as highlighted in previous studies (Janjua et al., 2021), there persists a significant dearth of comprehensive understanding regarding the economic advantages of homestays by integrating Indian Knowledge Systems (IKS) in enhancing the livelihood opportunities of communities.

3. Methodology

3.1 Overview of the Geographic Region

The geographical region under consideration pertains to Tehri Garhwal district, situated amidst the Himalayan expanse of Uttarakhand, India. Encompassing a latitude ranging from approximately 30° 03' N to 30° 52' N and a longitude spanning from around 77° 56' E to 79°02' E, the district claims an expansive geographical expanse of 2021.22 square kilometers. Tehri Garhwal district is distinguished by its location extending from the foothills near Rishikesh in the south to the majestic snow-capped peaks of Jonli and the Gangotri in the north. The Bhagirathi River navigates the landscape seemingly bifurcating the district into two distinct regions while other prominent water bodies such as the Bhilangna, Alaknanda, Ganga and Yamuna Rivers demarcate its eastern and western boundaries. Bounded by Uttarkashi district to the north, the district of Pauri Garhwal to the south, Rudraprayag to the east and Dehradun to the west, Tehri Garhwal district occupies a crucial position within the Uttarakhand state's geographical fabric. Echoes of ancient reverence resonate through settings such as Muni-ki-Reti and Tapovan where ancient sages undertook rigorous Tapsaya. The rough topography of Tehri Garhwal has facilitated the preservation of its rich cultural heritage which remains virtually untouched by the passage of time (District Profile Tehri Garhwal, 2024). Table 2 presents a breakdown of various tourism regions within the Tehri Garhwal district along with the attractions they offer. Each region is described in detail highlighting its tourist attractions and the opportunities for sustainable tourism development and community engagement through homestays.

Tourism regions	Attraction of the regions
1. Dhanolti Range	The Dhanolti Range settled in the western part of Tehri Garhwal Himalayas presents a captivating blend of dense forests with hills. Homestays in this region provide guests with an authentic experience of eco -tourism and adventure activities. The presence of Surkanda Devi Temple adds to the cultural appeal of Dhanolti attracting pilgrims and history enthusiasts. Also, the availability of trekking trails and camping sites promotes sustainable tourism practices and the economic growth of communities in the region.
2. Kanatal Belt	Adjacent to the Dhanolti Range lies the scenic Kanatal Belt, renowned for its serene ambiance. Kanatal provides ample opportunities for eco-tourism and nature-based activities. Moreover, the presence of heritage homestays allows visitors to plunge themselves into the authentic culture and lifestyle through interactions with villagers in agricultural activities contributing to sustainable development efforts.
3. Tehri lake	At the heart of the Tehri district lies the expansive Tehri Lake formed by the Tehri Dam constructed on the river Bhagirathi. This man-made reservoir attracts visitors with its water -based recreational activities including boating, jet-skiing and angling. Homestay hosts in this region also provide facilities for workcation with the organization of cultural events contributing to employment generation in the district.
4. Tapovan region	The Tapovan region is situated along the banks of the Ganges River in the southern part of the district which holds immense spiritual significance. Tapovan attracts spiritual seekers and wellness enthusiasts from across the globe. Homestay s in Tapovan offers yoga , meditation sessions, organic meals and holistic healing therapies to guests for a transformative experience rooted in spirituality and mindfulness.

Source: Author's computation of various tourism regions.

Table 2.
Tourism regions with attractions in Tehri

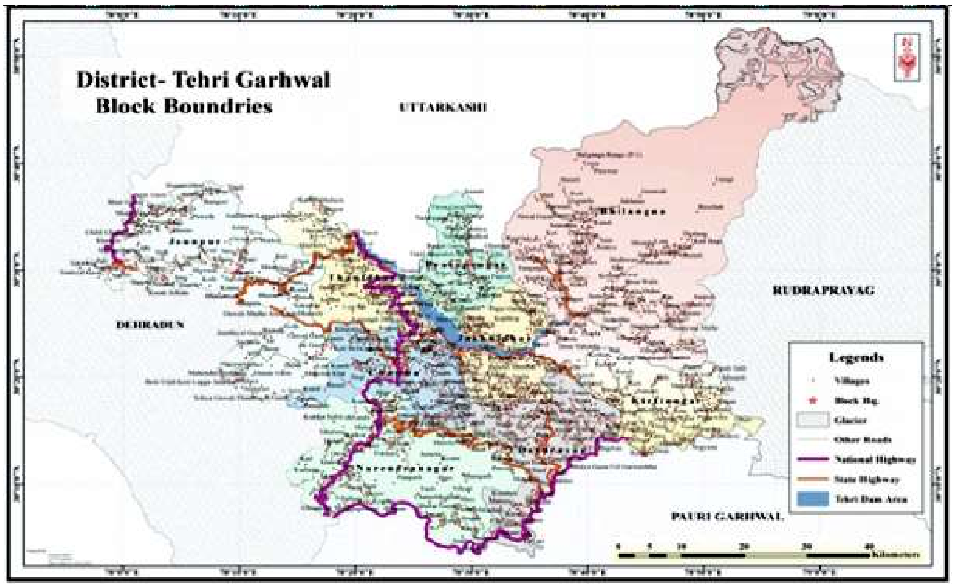
3.2 Research design

This research is grounded in fieldwork conducted in the Tehri district from March to September 2023. The research adopted a mixed-method approach by incorporating qualitative and quantitative techniques to capture a comprehensive understanding of homestay enterprises and their role in sustainable economic growth by adopting Indian knowledge systems.

A total of 639 homestay establishments were identified across four primary tourism regions which are the Dhanolti Range, the Kanatal Belt, Tehri Lake, and the Tapovan region for Spatial comparison of homestay performance across the four tourism regions to assess economic disparities. The selection of participants followed an opportunistic and snowball sampling strategy (Black, 1999) due to the informal nature of homestay operations. These methods allowed for an organic expansion of the sample, ensuring representation across diverse homestay types and locations.

To capture detailed insights, 287 in-depth semi-structured interviews were conducted in Hindi, the language in which homestay entrepreneurs were proficient. Each interview lasted 30 to 60 minutes, allowing respondents to elaborate on their experiences, challenges and the integration of traditional Indian knowledge systems into their business practices. The interview schedule was designed to explore how homestays contribute to poverty reduction, economic growth, and sustainable tourism. The flexible nature of the interviews facilitated the additional themes beyond the predefined research questions (Gray, 2004). The interview schedule was crafted to gain a thorough understanding of how homestays serve as a means for poverty reduction and economic growth while incorporating traditional Indian knowledge systems within the region.

A comparative assessment framework was employed to analyze the intensity of sustainable economic growth across key rural development factors. The analytical process included various steps. Firstly, to conduct this analysis, various sustainable growth indicators were classified into high, medium, and low intensity using frequencies and corresponding percentages based on homestays adopting Indian knowledge systems through income levels, livelihoods standard, local business linkages, social empowerment benefits, capital formation and environmental aspects to outline apparent patterns. Secondly, the data is stratified into respective ranks based on the mean scores obtained for each variable. Such a methodological approach allows for a detailed exploration of the multifaceted dynamics influencing economic growth offering valuable insights into the broader economic growth trajectory within the context under study.



Source: District Profile Tehri Garhwal, 2024.

4. Result

4.1 Demographic characteristics of the Homestay entrepreneurs

Table 3.
The demographic attributes of the participants (Number of respondents = 287)

Characteristics	Category	Frequency	Percentage
Sex	Male	194	67.6
	Female	93	32.4
Age	20 - 35 years	113	39.4
	36 - 50 years	123	42.8
	51 and above	51	17.7
Level of education	Primary	21	7.3
	High school	32	11.2
	Intermediate	53	18.5
	Graduation	125	43.5
	Post-graduation	56	19.5
Years of experience	1 - 3	78	27.2
	4 - 6	124	43.2
	Above 7	85	29.6
Monthly income level (₹)	59,999 and below	91	31.7
	60,000 - 69,999	108	37.6
	70,000 - and above	88	30.6

Source: Author's computation

Most participants were male accounting for 67.6% of the total sample while females comprised 32.4%. Regarding age, the respondents were divided into three categories and the largest share of respondents came inside the 36 - 50 years of age group representing 42.8%.Participants were divided into five groups considering the education level and most of the participants had finished their Graduation accounting for 43.5% of the total sample followed by Post-graduation with 19.5% and Intermediate with 18.5%.Most of the participants had 4 - 6 years of experience comprising 43.2% of the total sample followed by Above 7 years with 29.6% and 1 - 3 years with 27.2%.The distribution across income levels was relatively balanced with 31.7% falling in the ₹59,999 and below category, 37.6% in the ₹60,000 - ₹69,999 category and 30.6% in the ₹70,000 and above category.

4.2 Improved Livelihoods Standard provided by homestays

Table 4. Degree of improvement in livelihood associated with various economic aspects.

Economic aspects	Improvement of livelihood						Mean	Rank
	High		Medium		Low			
	F	%	F	%	F	%		
a. Diverse livelihood possibilities	174	60.6	84	29.3	29	10.1	2.50	II
b. Local employment generation	144	50.1	107	37.4	36	12.5	2.37	III
c. Poverty alleviation	181	63.1	91	31.7	15	5.2	2.57	I
d. Improved standard of living	95	33.1	131	45.6	61	21.3	2.11	IV

Source: Author's computation (F = Frequency. % = Percentage)

Poverty alleviation emerged as the paramount contributor to livelihood improvement producing a substantial mean score of 2.57. A considerable 63.1% of respondents rated it as High, indicating its perceived potency in enriching livelihood conditions. Subsequently, Diverse livelihood possibilities attained a commendable mean score of 2.50 suggesting its noteworthy impact on livelihood enhancement and diversification. Local Employment generation yielded a respectable mean score of 2.37 signifying its substantive contribution to livelihood improvement endeavors. Noteworthy percentages of respondents affirmed its role in the promotion of local commercial vitality and employment prospects. Improved standard of living garnered the lowest mean score of 2.11 implying a comparatively modest impact on livelihood enhancement. Nevertheless, a significant proportion of respondents constituting 45.6%, rated it as Medium suggesting relevance to a lesser extent compared to other factors.

4.3 Economic growth of the local community

Table 5. Intensity of economic growth assessed across various economic growth factors.

Economic growth factors	Intensity of growth						Mean	Rank
	High		Medium		Low			
	F	%	F	%	F	%		
a. Rural infrastructure development	59	20.5	113	39.4	115	40.1	1.80	III
b. Use of local products	82	28.6	139	48.4	66	23	2.05	II
c. Local economic linkages	134	46.7	117	40.8	36	12.5	2.34	I
d. Reduction of leakages	33	11.5	118	41.2	136	47.3	1.64	IV

Source: Author's computation (F = Frequency. % = Percentage)

In terms of Rural Infrastructure Development, a significant portion of 39.4% respondents reported medium intensity followed closely by low intensity 40.1% while a smaller proportion reported high intensity of 20.5% responses. The mean score was 1.80 indicating a relatively moderate level of rural infrastructure development. The Use of Local Products exhibited a similar trend with the majority of 48.4% respondents indicating medium intensity followed by high intensity 28.6%. The mean score for this category was 2.05 suggesting a moderate level of utilization of local products. The Local Economic Linkages category demonstrated a higher intensity of economic growth with the majority of respondents reporting high intensity of 46.7% responses indicating a comparatively high level of local economic linkages. This category ranked first in terms of mean score reflecting its significant contribution to economic growth within the local community. The Reduction of Leakages category showed a predominant low intensity of economic growth with the majority of 47.3% respondents indicating low intensity followed by medium intensity 41.2% and high intensity 11.5%. The mean score for this category was 1.64 suggesting a relatively low level of reduction in economic leakages. The leakages reduction was ranked fourth in terms of mean score indicating the least impact on economic growth within the local community.

Table 6.
Collective social empowerment benefits resulting from homestay initiatives.

4.4 Collective Social Empowerment Benefits

Social empowerment	Intensity of the benefits						Mean	Rank
	High		Medium		Low			
	F	%	F	%	F	%		
a. Ability to fund other ventures	43	14.9	131	45.7	113	39.4	1.75	III
b. Sense of cultural pride	101	35.2	119	41.5	67	23.3	2.11	I
c. Raised cultural heritage awareness	82	28.6	139	48.4	66	23	2.05	II

Source: Author's computation (F = Frequency. % = Percentage)

The data illustrates that the ability to fund other ventures emerged as a noteworthy collective social empowerment benefit with 45.7% of respondents experiencing a medium intensity with a mean score of 1.75 positioning it as the third ranked benefit in terms of intensity. The sense of cultural pride is identified as the most salient social empowerment with a mean score of 2.11 positioning it as the top ranked homestay benefit in terms of intensity. Furthermore, raised cultural heritage awareness emerges as another significant collective social empowerment benefit with 48.4% of respondents experiencing a medium intensity and 28.6% indicating a high intensity highlighted by the mean score of 2.05, placing it into second rank.

4.5 Capital formation of local communities

Table 7.
Intensity of capital formation resulting from various development aspects.

Development aspects	Intensity of the Capital formation						Mean	Rank
	High		Medium		Low			
	F	%	F	%	F	%		
a. Women participation	25	8.7	95	33.2	167	58.1	1.50	IV
b. Enhanced decision -making	122	42.5	124	43.2	41	14.3	2.28	I
c. Increased communal coordination	111	38.7	137	47.7	39	13.6	2.25	II
d. Skill development of locals	33	11.5	107	37.3	147	51.2	1.94	III

Source: Author's computation (F = Frequency. % = Percentage)

Active and passive participation of women in homestay ventures emerges as a notable aspect of capital formation with 33.2% of respondents experiencing a Medium intensity and 58.1% reporting a Low intensity supported by the lowest mean score of 1.50, positioning its rank as the fourth aspect in terms of intensity. Enhanced decision-making is identified as a significant contributor to capital formation with a mean score of 2.28 placing it as the top ranked facet in terms of capital formation. Additionally, increased communal coordination emerges as another pivotal aspect of capital formation with 47.7% of respondents experiencing a Medium intensity and 38.7% indicating a High intensity positioning it at the second rank. Skill development of locals is identified as a significant contributor to capital formation with a mean score of 1.94 positioning it as the third ranked feature in terms of intensity.

4.6 Environmental aspects of homestays

Table 8.
Intensity of awareness regarding environmental aspects within homestay operations.

Environmental aspect	**Intensity of the awareness**						**Mean**	**Rank**
	High		**Medium**		**Low**			
	F	**%**	**F**	**%**	**F**	**%**		
a. Environmental Awareness	69	24.1%	121	42.1%	97	33.8%	1.90	IV
b. Waste Management Awareness	174	60.6%	84	29.3%	29	10.1%	2.50	I
c. Use of Sustainable Technologies	95	33.1%	141	49.2%	51	17.7%	2.15	III
d. Sustainable Use of Resources	153	53.3%	92	32.1%	42	14.6%	2.38	II

Source: Author's computation (F = Frequency. % = Percentage)

Awareness towards the environment is observed to have a Medium intensity among 42.1% of respondents while 33.8% report a Low intensity and 24.1% indicate a High intensity. This observation is supported by the mean score of 1.90. Waste management awareness emerges as a significant aspect of environmental awareness with 60.6% of respondents reporting a High intensity highlighted by the mean score of 2.50 placing it at the top rank in terms of awareness intensity. The use of sustainable technologies is identified as another pivotal aspect of environmental awareness with 49.2% of respondents experiencing a Medium intensity together with 33.1% reporting a High intensity and a mean score of 2.15. Sustainable use of resources is recognized as a significant contributor to environmental awareness with 53.3% of respondents experiencing a High intensity positioning it as the second-ranked aspect in terms of awareness intensity.

5. Conclusion and Implications

5.1 Conclusions

The study has explored into the significance of Sustainable Development Goals (SDGs) through homestays for sustainable livelihood generation while adopting Indian knowledge systems (IKS) in hill communities in Uttarakhand. The study sheds light on the multifaceted impacts of homestays on the communities and their livelihood generation. The findings underscore the principal importance of poverty alleviation, diverse livelihood possibilities and local employment generation as the multifaceted benefits of homestays for sustainable livelihood generation. These benefits align with ancient Indian economic principles found in texts such as the Arthashastra, which emphasize the importance of local economic self-sufficiency and community-based resource management (Prasoon,2012). Besides, the study highlights the role of homestays in fostering rural infrastructure development and the utilization of local products which is reminiscent of the traditional Indian concepts (Chattopadhyaya et al., 2005). While these aspects demonstrate potential for improvement, the significant intensity of local economic linkages underscores the substantial contribution of homestays to economic growth within the local community. In terms of collective social empowerment benefits, the study identifies the ability to fund other ventures, sense of cultural pride and raised cultural heritage awareness as notable factors contributing to social cohesion and empowerment within hill communities which aligns with the concepts described by (Chandalia, 2017) highlighting the importance of tribal knowledge systems in maintaining cultural heritage and biodiversity. Capital formation through the participation of women enhanced decision-making, increased communal coordination and skill development of locals emerge as crucial aspects facilitated by homestays further enhancing community resilience and empowerment mirroring the ancient Indian ethos of inclusive participation and decentralized decision-making as practiced in the village assemblies or "Sabhas" mentioned in the Rigveda (Bhatnagar, 1932). Environmental aspects of homestays also receive attention with waste management awareness, the use of sustainable technologies and the sustainable use of resources highlighted as significant contributors to environmental awareness and conservation efforts. While there is room for improvement, particularly in raising awareness of the environment, the study underscores the positive strides made in waste management and the adoption of sustainable practices. These practices resonate with the Indian philosophical tradition of living in harmony with nature, as articulated in ancient texts (Balasubramanian, 2010; Mital, 2004;Rahman, 1999;Vatsyayan, 2006; Warrier, 1953).

5.2 Implications of Study

The exploration of Sustainable Development Goals (SDGs) through homestays for sustainable livelihood generation in hill communities in Uttarakhand holds significant implications for both academic research and practical interventions aimed at hill community development. Firstly, the findings underscore the pivotal role of poverty alleviation, diverse livelihood possibilities and local employment generation in fostering sustainable livelihoods within hill communities. By addressing economic vulnerabilities and enhancing income-generating opportunities, homestays using IKS can contribute substantially to poverty reduction and livelihood improvement aligning with SDG 1 and SDG 8.

The study highlights the importance of rural infrastructure development, utilization of local products and developing local economic linkages to enhance economic resilience and promote community development. The emphasis on these aspects not only supports economic growth within the local community but also contributes to SDG 9 (Industry, Innovation and Infrastructure) and SDG 11 (Sustainable Cities and Communities) by fostering inclusive and sustainable development in rural areas (United Nations, 2018). The findings further underscore the status of joint social empowerment benefits including enhanced decision-making, increased communal coordination and skill development of locals in fostering social cohesion and empowerment within hill communities. These aspects are crucial for promoting community resilience and fostering inclusive development, aligning with SDG 5 (Gender Equality) and SDG 10 (Reduced Inequalities). From an environmental standpoint, the study highlights the significance of promoting environmental awareness, waste management, sustainable technologies and the sustainable use of resources within homestay operations. The study aligns with SDG 12 (Responsible Consumption and Production) and SDG 13 related to Climate Action by fostering environmental stewardship and promoting sustainable practices Homestay can contribute to environmental conservation and mitigate negative impacts on local ecosystems (United Nations, 2021).

The study provides significant policy implications for enhancing rural tourism development through homestays applying Indian knowledge systems by emphasizing the need for comprehensive regulatory support, capacity building and sustainability-focused measures. Strengthening policy frameworks that provide financial incentives, microfinance access, and infrastructural support can facilitate the growth of homestay enterprises while ensuring long-term economic viability. Structured training programs focusing on managerial, financial, and hospitality skills can enhance the operational efficiency of homestay entrepreneurs while preserving cultural authenticity. Moreover, facilitating homestay participation in digital platforms and technology-driven initiatives can enhance market accessibility, improve visibility among domestic and international tourists, and contribute to the broader economic transformation of rural areas.

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Probing the Impact of Corporate Social Responsibility on Quality Firm Attainment in the Post Injunction Period: Corroborate from Developed and Emerging Economy

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Abstract

Purpose: Corporate social responsibility (CSR) holds particular importance today, both globally and in India, especially. This significant shift is driven by the evolving social goals pursued by informed consumers and investors, who adopt a long-term view, supported by advancements in data analysis and communication technology.

Methodology: In this research, the responses was analysed following the gathering of data to reach conclusions and offer further recommendations. The methods employed for this analysis included exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modelling (SEM) to validate the proposed hypotheses. For the analysis of data, software applications such as Statistical Package for Social Sciences (SPSS) version 30.0.0 and SmartPLS were utilized

Results: Where theoretical orientation evolves, we found both theoretical and practical conclusions. Market orientation and Community orientation greatly affect (Variable) Corporate Social Responsibility, Market orientation and Supply Chain Orientation significantly affect Firm Performance, and CSR Communication significantly impacts both (Variable) Corporate Social Responsibility and Firm performance. Firm performance is positively and significantly impacted by corporate social responsibility. Conversely, although having a favourable effect on (variable) corporate social responsibility and firm performance, the correlations between CSR Intent, CSR Management, and Industrial Standards are not statistically significant.

Implications: Without a discussion of its application and managerial implications, any management study would be incomplete. This is because the subject's fundamental objective is efficiently plan, carry out, oversee, and manage a company's operations. Actually, one of the primary objectives of this study was to suggest or advocate CSR practices for large Indian corporations in light of their business performance. When hiring the CSR team members based on attributes like gender, work history, and managerial experience at large Indian enterprises, the company's human resources should be carefully considered.

1. Introduction

Corporate Social Responsibility (CSR) has gained significant importance both globally and in India (Alt et al., 2018). This transformation is driven by evolving societal expectations, as consumers and investors, empowered by advancements in data and communication technology, increasingly prioritize long-term sustainability (Anagnostopoulos et al., 2018). India's Companies Act of 2013 marked a turning point by mandating CSR reporting for companies that meet specific financial criteria: a net worth of at least Rs 5 billion, a turnover of at least Rs 10 billion, or a net profit of at least Rs 50 million in any financial year. This regulation distinguishes India from other nations by making CSR compliance legally binding rather than voluntary. As a result, CSR has shifted from a philanthropic or discretionary

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practice to a more structured, measurable, and strategic approach (Ashta, 2018).
This legislation is expected to impact over 16,300 companies, channelling approximately 200 billion INR into the economy annually (Aslaksen et al., 2021). Such a large-scale financial commitment has significant implications for businesses, society, and the broader national economy. Furthermore, the Act has sparked international academic and professional interest in "mandated CSR," expanding research beyond voluntary corporate responsibility efforts. By institutionalizing CSR, India is poised to become a global leader in fostering Social, Economic, and Environmental Development. Bernal et al. (2017) noted that previous CSR research, such as studies conducted in Sweden, did not account for variations across different national contexts. He emphasized that future empirical work should explore how CSR is perceived and implemented in diverse countries to enhance academic and practical understanding.

2. Research Gap

There is a clear need to adapt previous CSR studies to contexts beyond developed economies such as Sweden. Many studies, including those by Christensen et al. (2021), heavily focus on Western markets, making it challenging to replicate their findings in emerging economies like those in Asia. According to Ozili (2018) and the IMF (2006), developing nations have the fastest-growing economies, making them prime markets for business expansion.
Globalization, economic growth, investment, and corporate activity are expected to have a substantial impact on social and environmental challenges in these regions (Ozili, 2018; World Bank, 2019). However, the CSR challenges faced by developing countries differ significantly from those in developed nations (Ozili, 2018).
Among emerging economies, India was specifically chosen for this study. Freeman and Reed (1983) noted that CSR research in Asian emerging markets has received considerably less attention compared to Western nations. Furthermore, only recently has CSR research in underdeveloped Asian countries gained traction in management literature (Bisht & Mishra, 2016).

3. Literature Review

The existing literature was systematically organized using a thematic analysis approach, grouping studies around key topics rather than chronological progression. This theoretical analysis helped identify existing concepts, their interconnections, the extent to which they have been explored, and the potential for developing new hypotheses.
A structured approach was followed to ensure relevance to the research gaps. Considerable effort was made to identify and utilize the most pertinent sources, and all necessary citations were included to acknowledge prior research. Since limited studies exist on mandatory CSR and its application in developing countries, particularly India, this literature review primarily examines CSR as a broad concept. However, the hypothesis was developed specifically for Variable Corporate Social Responsibility (VCSR).
Integrated Corporate Social Responsibility and Strategic Management
Researchers have explored the relationship between CSR and strategic management, demonstrating how CSR is increasingly becoming an essential component of corporate strategy. Strategic management, defined as the dynamic process of strategy formulation, implementation, evaluation, and control to achieve corporate objectives (Pakes, 1985), has gained prominence, particularly after 2000.
CSR is no longer merely a goodwill initiative but a strategic function essential to firm-level success. Spanos (2016) highlighted how CSR has evolved into a critical component of corporate strategy. In a study by Van (2003), 60% of surveyed business leaders considered CSR a crucial element of their business policies. Similarly, the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) emphasized that effective corporate responsibility requires integrating CSR into business policies and operational processes. Companies must proactively identify, prioritize, and address key societal issues, ensuring their initiatives create both social impact and long-term corporate sustainability.
The Rise of CSR 2.0 and Its Strategic Importance
A significant shift in CSR thinking has led to the emergence of CSR 2.0, which redefines corporate responsibility from a supplementary function to a core operational philosophy.

According to Najaf et al. (2022), CSR 2.0 is not just about occasional philanthropy but about embedding sustainability and responsibility into business operations. This model advocates for businesses to develop and implement strategies that are financially viable, socially responsible, and environmentally sustainable.

The adoption of CSR 2.0 is crucial for firms seeking long-term competitive advantage. Marhraoui & Manouar (2017) stressed that companies must define their CSR strategies clearly and align them with business objectives to enhance competitiveness. Izzo et al. (2020) argued that businesses should shift toward a shared value approach, wherein financial performance is directly linked to solving societal problems. This approach reconnects business success with social progress through three key mechanisms:

1. Reimagining products and markets to meet social needs.
2. Redefining efficiency along the value chain to optimize resource use.
3. Building supportive industry clusters that benefit both businesses and local communities.

Thus, CSR 2.0 serves as a strategic driver for firms by fostering innovation, improving reputation, and strengthening stakeholder relationships. Companies that integrate CSR into their core operations, rather than treating it as a peripheral activity, are more likely to achieve sustainable growth (Toumi et al., 2023).

Corporate Social Responsibility and Firm Performance

Extensive research supports the positive relationship between CSR and business success. Hammadi & Nobanee (2019) found a strong correlation between CSR initiatives and overall organizational performance. Similarly, Merello et al. (2022) observed that CSR enhances customer loyalty, employee motivation, and financial success. These benefits can be measured using both financial and non-financial performance metrics.

While financial performance metrics assess profitability and revenue growth, non-financial metrics capture intangible benefits such as brand reputation, employee satisfaction, and corporate image (McWilliams & Siegel, 2001; Spanos, 2016). Many management accounting studies have criticized over-reliance on financial measures alone, emphasizing the need for a more holistic assessment of organizational success (Yang et al., 2019). Non-financial metrics help bridge research gaps in financial accounting by providing a more comprehensive evaluation of corporate performance (Zhao et al., 2022).

The literature highlights the growing strategic importance of CSR, particularly through the adoption of CSR 2.0, which integrates sustainability and corporate responsibility into the core business model. This shift underscores the need for companies to view CSR not as an obligation but as a key driver of competitive advantage and long-term success. While research has extensively examined CSR in developed economies, further studies are needed to explore its impact in emerging markets like India, where mandatory CSR laws provide a unique context for understanding corporate responsibility in a regulatory-driven environment depicted in figure 1.

4. Research Problem

Empirical research has been done on many continents worldwide regarding the connection between financial achievement and corporate social responsibility. There are less studies examining how a firm's strategic behaviour changes in response to corporate non-financial social attainment feedback than there are studies examining how financial attainment feedback compares to social attainment feedback.

The nature of the relationship between CSR and financial attainment remains a topic of debate despite the large number of international studies that have been conducted in this area. The empirical results on the connection between CSR and financial accomplishment have yielded contradictory results, based on the conclusions of earlier continental, cross-country, and country-specific studies.

5. Research Objectives

The study objectives are listed below and follow the research questions:

a) To recognize the important features of CSR, Strategic Governance and Firm attainment of a firm;

b) To determine the relationship between CSR, strategic governance, and a firm's success.

6. Research Questions

The study's scope allows for the formulation of the following specific research questions:

1. What are the features of strategic governance that cause (Variable) CSR distress?
2. What features of strategic governance cause firm attainment issues?
3. Does CSR (Variable) play a role in a firm's attainment?

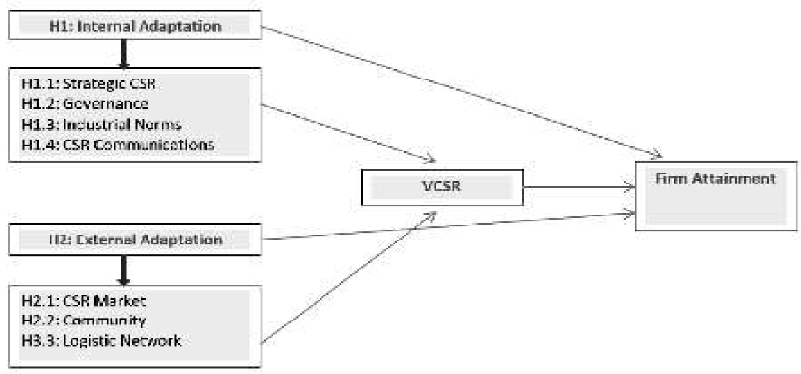

Figure 1.
Conceptual framework of model: Influence of CSR and Firm attainment.

7. Research Hypothesis

The main hypotheses, each of which has a sub-hypothesis, have been developed from the theoretical model and grounded on Karin Isaksson's exploratory investigation.

Hypotheses based on the link between internal Adaptation and variable corporate social responsibility (VCSR)

H1 There is a link between Internal Adaptation and VCSR.
H1.1 There is a link between strategic CSR commitments and VCSR.
H1.2 There is a link between CSR Governance and VCSR.
H1.3 There is a link between Industrial norms and VCSR.
H1.4 There is a link between CSR Communication and VCSR.

Hypotheses based on the link between external Adaptation and variable corporate social responsibility (VCSR)

H2 There is a link between External Adaptation and VCSR.
H2.1 There is a link between Market CSR and VCSR.
H2.2 There is a link between Community CSR and VCSR.
H2.3 There is a link between Logistics network and VCSR.

8. Significance Of The Study

The study is important because it will add knowledge regarding the connection between CSR and financial attainment, both theoretically and empirically. The study's conclusions may also be a valuable academic resource or source of information for future research on the connection amid CSR and financial attainment both in India and overseas.

Thus, this study's main objective is to add to and expand our understanding of the relationship between corporate social responsibility (CSR) and financial performance. It is intended that the study's findings will be a valuable source of information that influences business CSR strategy.

9. Research Methodology

This study is adapted from Karin Isaksson's (2017) research, which employs qualitative research as a foundation. A pilot study was conducted involving five subject matter experts-three academicians and two practitioners-to evaluate the content validity of the reconstructed instrument. Secondary data analysis was crucial in validating quantitative findings at each stage (Mitra et al., 2018).

Sampling Design

A review of previous CSR studies in India was conducted to determine the most suitable database for categorizing large Indian companies. The review identified repositories such as Prowess and the BSE/NSE database, each with distinct advantages and limitations relevant to this study. Based on input from five subject matter experts, the final decision regarding the database was challenging.

Ultimately, the "Top 2500 CSR Companies" CSR Crawler Master Database repository from the Indian Institute of Corporate Affairs (IICA) was selected as the sampling frame. The chosen companies represented diverse industries, including transportation, healthcare, consumer products, energy, oil and gas, information technology, automotive, and pharmaceuticals. All companies were required to comply with the CSR law under the 2013 Companies Act.

Survey and Response Rate

Respondents comprised professionals involved in CSR activities, spanning various departments such as Human Resources, Legal, Communication, and Strategic Governance. This aligns with previous findings (Mishra & Suar, 2010) indicating that many Indian companies manage CSR initiatives through public relations or human resources departments rather than dedicated CSR units (Sagar & Singla, 2004).

The data collection spanned seven months, beginning in November 2016, with continuous follow-ups. A total of 528 companies participated, though 216 responses were incomplete due to missing critical information. The final dataset included complete responses from 312 companies subject to the 2% CSR mandate under the 2013 Companies Act, resulting in a 21.53% response rate. Non-responses were attributed to ongoing CSR-related regulatory transformations, company policies restricting the disclosure of financial information, and reluctance to submit multiple responses from subsidiaries of the same corporate group.

Data Collection

The study relied on both primary and secondary data to ensure comprehensive analysis. Primary data was collected through a structured questionnaire designed to support hypothesis testing. The development of the questionnaire was guided by insights from existing literature, expert feedback, and best practices in survey design. While most items measuring the conceptual model's components were derived from prior research, they were further refined through expert evaluations to enhance clarity and relevance.

A critical reference for questionnaire design was the study conducted by Karin Isaksson (2017). After a comprehensive review, 78 items were selected for analysis, distributed across two sections: Part 1 consisted of 10 items focusing on sample characteristics, while Part 2 comprised 68 items designed for inferential statistical analysis.

To capture nuanced responses, the questionnaire utilized a 7-point Likert scale (1 = "Extremely Disagree" to 7 = "Extremely Agree"), providing greater granularity than the commonly used 5-point scale. Additionally, several questions assessed the effectiveness of CSR initiatives. The self-administered questionnaire was distributed to all 2,500 companies, accompanied by a confidentiality assurance letter to encourage candid responses (Khan, 2008).

Analysis Techniques

Upon completion of data collection, a rigorous analytical framework was employed to test hypotheses and derive meaningful insights. The analysis process incorporated multiple statistical techniques, including Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM). These techniques were instrumental in refining the study's constructs, validating measurement scales, and testing theoretical relationships.

Exploratory Factor Analysis (EFA): EFA was employed to identify underlying patterns within the dataset by reducing the original variables into a smaller set of meaningful factors while minimizing information loss (Marhraoui & Manouar, 2017). Principal Component Analysis and Factor Analysis were used for extraction. The eigenvalues determined the number of factors to retain, with SPSS 30.0.0 initially identifying 68 components. Following a detailed assessment, the final model retained nine factors, collectively explaining 61.078% of the total variance. To enhance factor interpretability, factor loadings below 0.4 were suppressed, and seven items with low factor loadings were eliminated depicted in Table 1.

Items	Factor
S14VCSRC	.427
S15VCSRC	.674
S16VCSRC	.789
S17VCSRC	.613
S18VCSRC	.555
S19VCSRC	.527
S20VCSRC	.411
S21VCSRC	.724
S22VCSRBM	.456
S23VCSRBM	.820
S24VCSBRM	.553
S25VCSRBM	.554
S26VCSRBM	.266
S27VCSRBM	.401
S28VCSRBM	.352
S29VCSRBM	.762
S30VOMC	.731
S31VOMC	.682
S32VOMC	.436
S33VOMC	.718
S34VOMC	.652
S35VOMC	.653
S36VOMC	.601
S37VOM	.516
S38VOM	.701
S39VOM	.671
S40VOM	.478
S41VOMC	.393
S42VOM	.522
S43VN	.317
S44VN	.322
S45VOC	.584
S46VOC	.661
S47VOC	.667
S48VOC	.775
S49VOC	.569
S50VOCS	.678
S51VOCS	.871
S52VSCO	.734
S53VOCS	.472
S54CSRV	.482
S55CSRV	.227
S56CSRV	.591
S57CSRV	.621
S58CSRV	.347
S59CSRV	.785
S60CSRV	.747
S61CSRV	.531
S62CSRV	.687
S63CSRV	.525
S64CSRV	.604
S65VPF	.447
S66VPF	.773
S67VOM	.637
S68VOM	.652
S69VPF	.825
S70VPF	.808
S71VPF	.556
S72VPF	.628
S73VPF	.562
S74VOC	.684
S75VOM	.857
S76VO	.683
S77VP	.766
S78VN	.808
S79VN	.863
S80VN	.848
S81VN	.781

Table 1.
Factor loading of various items

Reliability Assessment: Reliability, which measures the consistency of the measurement instrument, was assessed using Cronbach's Alpha (Pakes, 1985; Hammadi & Nobanee, 2019). The study achieved a Cronbach's Alpha value of 0.917, indicating a high degree of internal consistency across the 61 retained items. This result underscores the robustness of the measurement scale employed in the study.

The measurement model

Convergent validity indicates how closely related the items within an instrument are. The loadings of the model's measurements are presented in Table 2. All reflected metrics met the criteria for average variance extracted (AVE) and composite reliability. Following the recommendations of Freeman & Reed (1983), three of the item loadings exceeded 0.50, and the composite reliability and AVE values for six constructs were 0.70 or higher for composite reliability and 0.50 or higher for AVE. Discriminant validity testing was also conducted to ensure that the items measured the intended construct rather than other related constructs. The square root of the average variance extracted for each construct was higher than the correlations between that construct and all others, confirming discriminant validity. With the exception of two constructs, Market Adaptation and Firm Attainment, all results provided sufficient empirical support for the measurement instrument's validity in terms of reliability, convergent validity, and discriminant validity.

Table 2.
Validity testing and reliability testing

Constructs	Composite Reliability	Average Variance Extracted
CSRCommitments	0.927	0.281
CSR Governance	0.528	0.282
CSR Reporting	0.588	0.228
Consumer & business Consumer and business markets Adaptation	0.898	0.531
Industrialnorms	0.717	0.386
Society Adaptation	0.841	0.428
Logistics network Adaptation	0.846	0.651
Corporate Social Responsibility	0.574	0.167
Firm Attainment	0.884	0.531

The square root of the average variance extracted for each construct was higher than the correlations between that construct and all others, confirming discriminant validity. With the exception of two constructs, Market Adaptation and Firm Attainment, all results provided sufficient empirical support for the measurement instrument's validity in terms of reliability, convergent validity, and discriminant validity depicted in table 3

Table 3.
Discriminant validity

	VCSRC	VCSRBM	VCMO	VOM	VINST	VOC	VSOC	CSRV	FPV
	0.528								
VCSRBM	0.133	**0.532**							
VCOM	0.036	0.108	**0.479**						
VOM	0.621	0.085	0.262	**0.729**					
VINST	0.142	0.262	0.152	0.14	**0.622**				
VOC	0.552	0.483	0.028	0.458	0.199	**0.702**			
VSOC	0.337	0.204	−0.165	0.226	0.01	0.371	**0.808**		
CSRV	0.17	0.149	0.456	0.128	0.139	0.369	0.009	**0.408**	
FPV	0.616	0.229	0.141	0.921	0.128	0.482	0.181	0.209	**0.728**

Analysis of the data colConfirmatory Factor Analysis (CFA): CFA was conducted to validate the factor structure identified through EFA. Model adequacy was assessed using multiple fit indices, including Chi-Square (?² = 5874.567, df = 1105, p = .000), Comparative Fit Index (CFI = 0.931), Goodness-of-Fit Index (GFI = 0.932), Adjusted Goodness-of-Fit Index (AGFI = 0.872), and Root Mean Square Error of Approximation (RMSEA = 0.017). These results confirmed the structural validity of the proposed model (Bentler, 1990; Jöreskog & Sörbom, 1987).

Structural Equation Modeling (SEM): SEM was utilized to examine relationships among constructs while ensuring validity and reliability. Key assessments included Composite Reliability (CR) and Average Variance Extracted (AVE). The square root of the AVE exceeded construct correlations, thereby supporting discriminant validity. Some constructs, such as Market Adaptation and Firm Attainment, required minor adjustments to meet validity thresholds.

Sample Description

Descriptive statistics provided a detailed overview of the sample characteristics. The final sample consisted of 50% manufacturing firms, 38.4% service-sector firms, and 11.6% mining firms. The majority of respondents (71.3%) were from the private sector, with 73% of these firms being Indian-owned. Most participants (65.5%) held top-level managerial positions, with 48% having over 21 years of work experience. Additionally, 66.2% of respondents were aged between 40 and 60 years, and 65.3% possessed advanced degrees.

Further analysis of respondent roles revealed that 30.9% were part of top governance structures (e.g., CEOs, board members), while 69.3% were affiliated with functional departments. Among functional roles, 29.7% were engaged in CSR, 12.4% in Human Resources, 5.7% in the Company Secretary's Office, 2.8% in Public Relations, and 18.4% in other divisions. A notable finding was the gender disparity, with only 14.3% of respondents being women.

This structured methodology provides a clear and systematic framework for analyzing CSR implementation across Indian corporations, ensuring a robust foundation for generating data-driven insights.

Effects of corporate social responsibility and strategic Governance on firm attainment

Structural Equation Modeling (SEM) - Despite various theoretical contributions, there is no established theoretical framework or empirical research on the mediators of productivity and creativity in the relationship between CSR and business success. Consequently, there is a need to develop a theoretical model based on established conceptual reasoning and empirically validate it using a reliable method. To address this, a theoretical model was constructed using SEM to analyze the complex relationship between CSR and business success, including the mediating roles of innovation and productivity. SEM defines the relationships between latent variables according to theoretical specifications. SEM is also known by other terms such as causal modeling, causal analysis, simultaneous equation modeling, analysis of covariance structures, route analysis, and causal function analysis (CFA) depicted in figure 2.

Several models were tested in this study, and the model with the best fit indices was selected.

Chi-square=7864

Degrees of freedom=5016

Probability level=.000

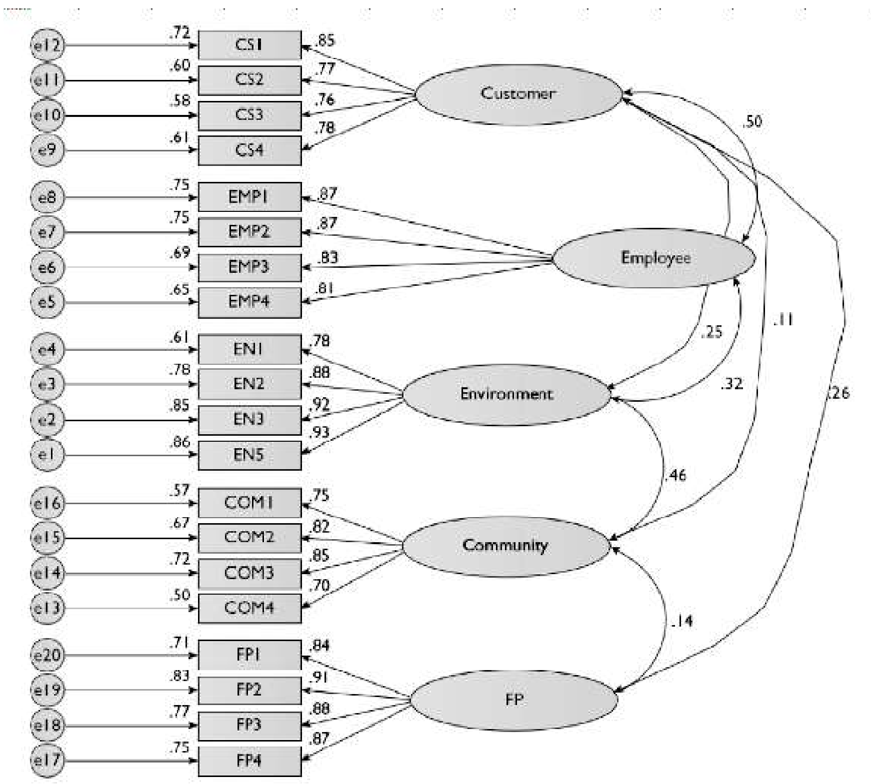

Figure 2.
SEM Model.

10. Results and Discussions

Theoretical Insights

This study provides empirical evidence on the impact of mandated CSR in large Indian companies, reinforcing certain theoretical assumptions while challenging others. The primary theoretical findings are as follows:

- Internal adaptation in CSR communication has a statistically significant influence on both Corporate Social Responsibility (CSR) and Firm Attainment.
- Adaptation of CSR market strategies and logistics networks significantly impacts Firm Attainment.
- The CSR variable itself exerts a significant effect on Firm Attainment.
- In contrast, Strategic CSR, Governance CSR, and Industrial Norms CSR show a positive relationship with both CSR and Firm Attainment, but these relationships are not statistically significant.

Given India's pioneering role in legislating mandatory CSR through the 2013 Companies Act, this research contributes to the understanding of such mandates in an emerging economy. These findings extend the theoretical discourse by offering one of the earliest insights into mandatory CSR's effectiveness in a developing country. Furthermore, the study builds upon Karin Isaksson's (2017) work in Sweden, which examined similar macro-level variables. While Isaksson's findings revealed predominantly positive relationships-except for CSR-customer interactions-this study highlights the significance of these relationships in the Indian context, underscoring key differences in the post-mandate period.

Interpretation of Statistical Significance

The statistical significance of key relationships in this study indicates meaningful impacts of CSR initiatives on corporate performance. The significance of Internal CSR Adaptation ($p < 0.05$) suggests that well-integrated CSR communication positively contributes to both CSR effectiveness and Firm Attainment. Likewise, significant results for Market and Logistics Network Adaptation ($p < 0.01$) affirm that companies adapting their CSR strategies to market dynamics and supply chain logistics experience enhanced firm performance.

On the other hand, the non-significance of Strategic CSR, Governance CSR, and Industrial Norms CSR suggests that while these elements contribute positively, their effects are not strong enough to be deemed statistically conclusive. This indicates that companies may need to refine these CSR strategies or integrate them more effectively to achieve measurable business outcomes.

Managerial Implications

The findings of this study hold practical significance for business leaders and policymakers responsible for CSR implementation. The study underscores the necessity of strategically allocating resources and personnel based on specific CSR-driven objectives. Key managerial insights include:

- CSR practices significantly vary among female employees, influencing both consumer and business markets, as well as firm performance.
- CSR team members with 21+ years of experience exhibit notable differences in society adaptation, demonstrating the value of seasoned professionals in CSR planning.
- Employees with 10 years or less experience show variability in CSR engagement, suggesting a learning curve that organizations should address through targeted training and mentorship programs.
- Frontline executives display substantial differences in their adaptation to societal expectations and logistics networks, emphasizing the need for hands-on CSR training for operational staff.

However, factors such as gender, overall experience, seniority, and industry type do not significantly influence CSR reporting, despite the strong observed correlation between CSR activities and Firm Attainment. These findings provide a clear, data-driven basis for informed managerial decision-making, ensuring that CSR strategies align with corporate objectives and broader societal expectations.

This study's integration of statistical analysis and theoretical discourse offers valuable contributions to CSR literature and practical insights for corporate leaders navigating India's evolving CSR landscape.

11. Limitations

This study has several limitations, including:

- It is limited to the socioeconomic context of India, as it focuses exclusively on that country.
- The survey was conducted among large Indian corporations, overlooking the dynamic MSME sector, which is a vital part of India's economy.
- The study primarily used quantitative methods, supplemented by qualitative data. While this approach allowed for objective and scientific analysis, it also introduced certain inherent limitations.
- Due to the absence of a Corporate Social Responsibility (CSR) index in India, the study relied on the criteria outlined in Schedule VII of the 2013 Companies Act. An existing CSR Index might have provided a more comprehensive and measurable set of results.
- The responses were provided by members of the company's CSR team, reflecting their perspectives and experiences rather than those of other company officials.

12. Future research directions

This study builds on the research conducted by Karin Isaksson (2017) in Sweden, who suggested that further empirical investigation across various national contexts would deepen the understanding of Corporate Social Responsibility (CSR) for both practitioners and academics.

- While this study extends Isaksson's (2017) research into a new context, it is limited to India. Future research could explore CSR in other countries with different internal and external managerial adaptations.
- An independent study could be conducted using a similar framework, focusing on the Micro, Small, and Medium Enterprises (MSMEs) sector in India. These enterprises are crucial for India's growth, comprising nearly 63 million MSMEs that contribute 30% to the country's GDP, half of all manufacturing, 40% of exports, and generate over 113 million jobs.
- Once a CSR Index is established in India, as currently being developed by BSE Ltd. and the

IICA, this research could be replicated using the same components.

- Additionally, incorporating perspectives from individuals outside the CSR teams of major Indian companies could provide alternative insights that may differ from the findings of this study.

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Mapping the Landscape: A Bibliometric Analysis of Green Advertising in Skincare Products

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Abstract

Purpose: Green Glam is a popular trend among consumers of all ages for healthy, glowing skin. Targeting this trend through green advertising can foster environmental concern and meet consumer demand for healthy skin. This study aims to identify key emerging themes in green advertising and skincare, including cited sources, trending keywords, authors, and countries working in the field.

Design/Methodology/Approach: The study screens and identifies documents using scientific procedures and rationales for systematic literature reviews (SPARL 4-SLR). This is followed by a general analysis using Biblioshiny software. It then bibliometrically analyses 125 documents using VOS viewer software, including 115 articles and 10 review articles from open-access journals from 2018 to 2024.

Findings: The study shows a significant rise in green advertising and skincare research from 2018 to 2024, with Switzerland being the most cited source with 552 citations for 28 documents. Top keywords include consumption behaviour, sustainability, perception, marketing, and social media. Top countries working in green advertising include Australia, Malaysia, the UK, Greece, and the US. The study identifies four major themes categorized as basic, motor, niche, and emerging or declining themes in the study area.

Originality/Value: Green advertising in skincare is a key strategy for attracting consumers. This analysis technique provides insights for researchers, industries, and the market. Previous research includes the fields of sustainability and green marketing, and this paper connects past studies on these topics, highlighting themes for future contributions in India, a field with limited research.

Keywords: Green Advertising, Bibliometric Analysis, Green Skincare, Eco-Friendly, Vos Viewer, Bibiloshiny.

1. Introduction

Green advertising is one of the prominent ways of attracting customers to any product, as the market is moving ahead in the arena of technological advancement and modernization. Individuals are growing increasingly self-conscious about their appearance-a trend that fosters confidence in those prioritizing skin health over aesthetic beauty. Therefore, establishing a green brand image through green advertising is one of the most effective ways to gain customers' trust in today's market. An analysis portrays that in traditional times aromatic and medicinal plants were the key ingredients used to make skincare herbal and sustainable (kulak, 2018). Therefore, in the present time, there is a high market demand for green skincare products, which can be advantageous to consumers and the environment simultaneously. Today, success hinges on sustainability, and the concept of sustainability can lead to leadership (Maqbool & Misra, 2014). Usmani et al. (2017) address the concept of sustainability as a long-term investment that manipulates consumer psychology. The evaluation of green brand image among consumers is easily done through green advertising which is one of the significant drivers used for playing with human psychology (Mansoor et.al, 2022). Green advertising emerges as a scientific, sustainable tool that contributes to changing customers' mindsets toward green or sustainable products (Pal & Khan, 2015). The perceived attitude toward the environment and green purchase behaviour is triggered among the consumers using green advertising which makes them choose an environment-friendly skincare brand (Ruslim et.al, 2022). In the cosmetic market an evolution of shift is witnessed among the consumers, that people are becoming more conscious about the health of their skin rather depending on the chemical filled beauty products (Amberg, 2019). Further, the Web of Sciences database analyses the theoretical roots of green marketing trends from 1991 to 2021, highlighting four key themes (Wang & Perez, 2023). The study examines the relationship between emerging technologies and innovations in the industry through bibliometric analysis (Shama et al., 2023). The Web of Sciences database analyzed three decades of green advertising from 1990 to 2020, contributing to nine subtopics and highlighting major gaps for future analysis (Agarwal & Kumar, 2021). The emergence of green advertising literature is increasing with the rapid changes; the analyses from the Scopus database highlight key themes like sustainability, green products, and advertising strategies with an increasing number of works of literature in green advertising (Paulraj & Joy, 2024). Alamysah et al. (2020) have argued and made clear that consumers are becoming more aware of eco-friendly products, which will be beneficial for them in approving the approach of sustainability towards a green future. Increasing sustainability can be a significant strategy for achieving an eco-friendly spectrum across various industries. A bibliometric analysis conducted in the field of green marketing from 2005-2022 identifies that there is a witnessed growth in the research paper production highlighting the concept of green marking in different industries (Bhardwaj et.al 2023). There can be significant growth witnessed in the skincare market, which tends to foster a growth rate of CAGR of 14.6% from 2024-2034 (17). Therefore, green advertising studies in the skincare market are relevant, but before that, we need to analyze the previous literature available over the last few years. A bibliometric analysis from 1991 to 2021 using the Scopus database, emphasizing four crucial steps that establish a theoretical framework for green competitiveness and enhance entrepreneurs' capacity Chygryn & Miskiewicz, (2022). To effectively manage the essence of green advertising efficiently, an integrated approach of green manufacturing, retailing, green advertising, and green products can be an excellent way of driving sustainability across various fields Srivastava et al., (2023). Bhardwaj et al. (2020) conducted an analysis of data from 1964 to 2019, forecasted a network analysis based on the citation growth pattern, and provided an overview of emerging trends related to green products, identifying this as the trendiest field for further study. Therefore, this study aims to conduct a bibliometric analysis of the freely available articles and reviews from the Scopus database from 2018 to 2024 to gain a comprehensive understanding of the current flow of literature from various perspectives. In line with this, the following research questions will be addressed in this study:

RQ1: What are the most frequently cited sources in the field of green advertising for skincare products?

RQ2: What are the most commonly used keywords in the literature on green advertising for skincare products?

RQ3: Which authors under co-authorship, have been frequently cited, which made the most significant contributions to the field of green advertising for skincare products?

RQ4: Which countries are the most active in research on green advertising for skin care products as per the citation patterns?

RQ5: What are the relevant and developing themes in the field of green advertising for skincare products?

2. Research Methodology

This study uses the (SPARL-4-SLR) method for data identification and reporting (Paul et al., 2021). The first stage of assembly involved identifying, acquiring, and retrieving a total of 286 documents from the Scopus database, using the TITLE-ABS-KEY "Green advertising" AND "Skincare." As a result, during the second stage, known as the arranging stage, we excluded 51 documents based on the time frame spanning from 2014 to 2024. We categorized a total of 235 documents by source type specifically open access journals, and document type, including articles and review articles, and further employed the following procedure to extract data, (TITLE-ABS-KEY ("Green" AND "Advertising" AND "Skincare" AND "Products") (2017) AND (PUBYEAR "< 2025") AND (LIMIT-TO (Language, "English"))).We gathered 125 documents at the assessment stage for the final study, based on various criteria, such as a time frame of 2018-2024, and limited them to 115 articles and 10 review articles published in open-access journals. Following this process, we exported all the files in CSV format to Microsoft Excel. We structured the data exported from the Scopus database into Excel sheets while sorting. We then interpreted these files using biblioshiny and bibliographic data mapping in Vos Viewer software for further bibliometric analysis. The method used for the interpretation of the results included the analysis of the literature available in the field of green advertisement and skincare products, on the Scopus database, using biblioshiny software and Vos-viewer.

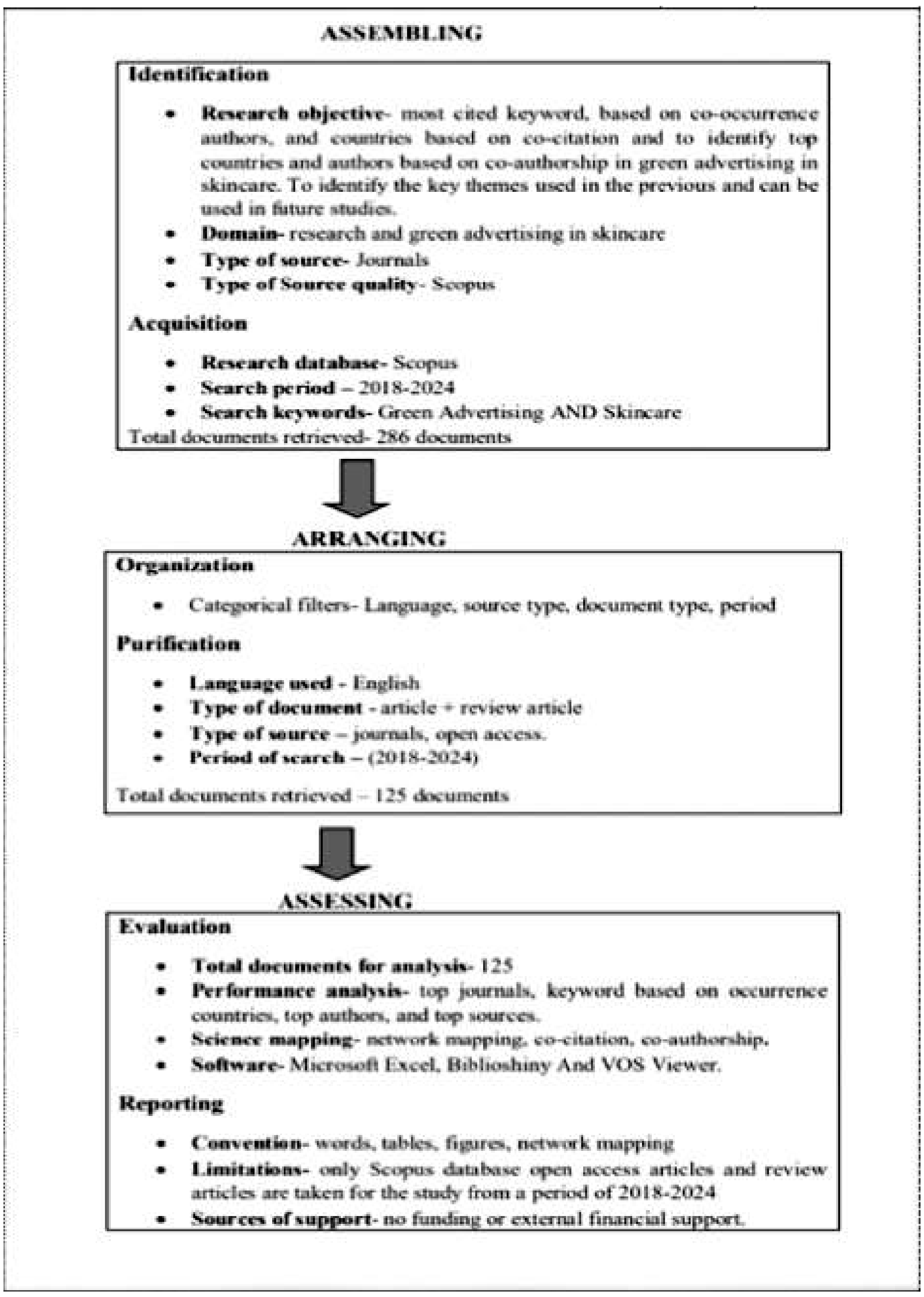

Figure 1.
SPARL-4-SLR Method
(Paul et al., 2021)

Source: Author's Compilation

2.1 Biblioshiny and Bibliometric Analysis

"Biblioshiny" of Bibliometrix is the trendiest free software of 'R studio' which can be downloaded and used freely for the analysis of past literature available on different databases which includes analysis of top authors, most cited sources, social contribution, and the top countries contributing to the relevant areas of research for green advertising various charts and figures are drawn using "Biblioshiny" software that led to a significant forecast of results (Aria& Cuccurullo, 2017).

On the other hand, bibliometric analysis can easily be defined as the analysis of statistical information from various sources, such as articles, conference papers, review articles, books, chapters, etc. This process aims to identify the impact factor of top authors and organizations in the concerned field as well as to identify countries based on the latest searches. Bibliometric analysis involves statistical evaluation of publications, including books, papers, and other publications. Bibliometrics data is very helpful in analyzing the connectivity among the research carried out in a specific field around the world, i.e., it helps to build a relationship among the publications. Donthu et al. (2021) define bibliometric analysis as a technique for handling and managing large numbers of data sets that are not manageable or handled manually. This technique effectively identifies the most frequently used keywords based on their occurrence and co-occurrence, identifies the top authors working in a specific field, identifies the top sources with the most cited works in the relevant field, and analyses the top authorship based on countries and keywords. This analysis not only reveals the latest trends in the field of study but also provides a detailed breakdown of the countries with the highest citations, top sources, top authors, and co-authorship. It also provides an analysis of current research trends on the topic, as well as an analysis of organizations that are working in the current area of the search. A large database such as the Scopus database, Web of Science database, Science Direct database, Google Scholar database, etc. provides easy access to the data. Therefore, bibliometric analysis can be defined as a method of analysis that helps to identify and analyze the top sources, authors, documents, organizations, and countries, which helps to provide a base for evaluating a study based on previously published data. In simple words, it gives a summary of recent advances in the relevant subject of study.

3. Findings

Annual Scientific Production is the total number of articles or amount of literature that is scientific and relevant produced by researchers, teams, and departments. Institutes, for the nation during a specific year to share their insights on a particular field of study. From Figure 2, it can be easily analyzed that there is a significant growth in the number of articles and review articles from the year 2018 to 2023, but in the present year 2024 a decline is witnessed in the number of articles and review articles published in the Scopus database for green advertisement and skincare products. According to the analysis, the coupling of documents in year-wise distribution is as follows:

2018-4; 2019-9; 2020-11; 2021-18; 2022-31; 2023-39; 2024-13.

In 2018, only 4 documents were published related to green advertisement and skincare products but with the changing times, there was a high contribution to the literature during 2022 with 31 documents, followed by 39 articles in 2023, which is the peak time where the highest contribution was made in this field.

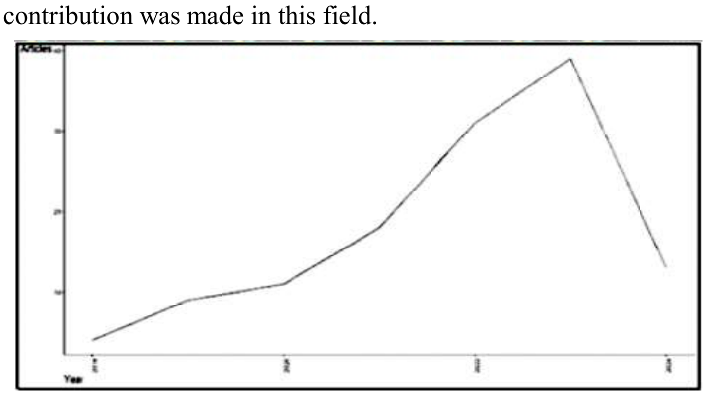

Figure 2.
Parental Involvement in Annual scientific production of articles on green advertising and skincare retrieved from the SCOPUS represents the number of articles published annually between 2018-2024.

Source: Author's Calculation

3.1 Most Cited Sources

To address research question 1 (What are the most frequently cited sources in the field of green advertising for skincare products?), we analyze the highest influential source for the concerned theme through the most commonly used citation analysis (Cronin & Ding, 2011).

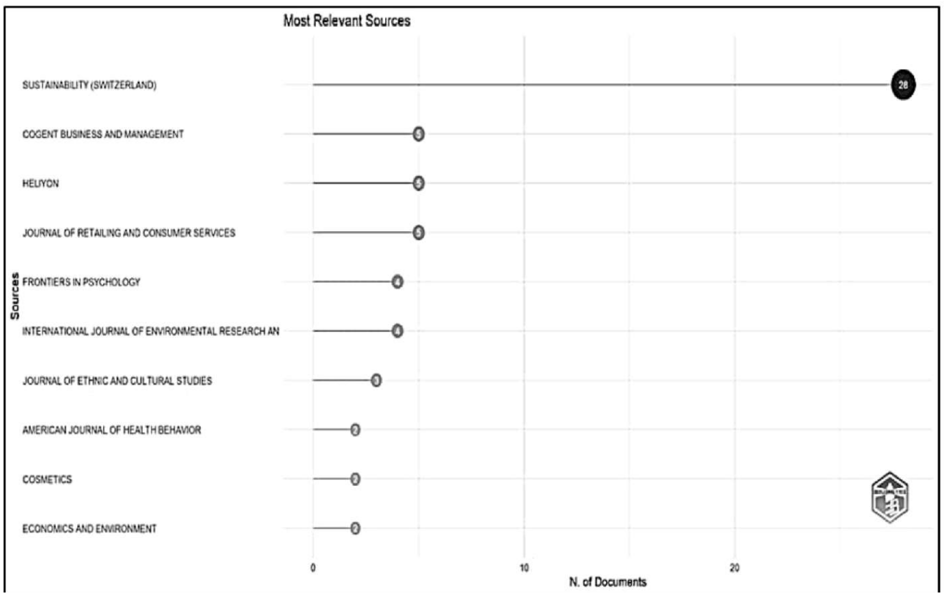

Figure 3. Top 10 Journals Based on the Most Cited Sources

Source: Author's Calculation

Citation creates intellectual connections and is used to estimate an article's impact (Appio et al., 2014). Figure 3 analysis and interpretation focus on the most frequently cited sources using Biblioshiny software. This analysis depicts the top journal contributing to the field of green advertisement and skincare market, after this analysis is done using Vos-viewer software the source is identified by applying filters that include and recommend documents with a minimum of two citations per document and using a lower limit of three sources for the analysis. After applying the threshold limit, 7 met the criteria from a total of 69 sources in the study of green advertising and skincare. Consequently, the following Table 1 shows the data derived from the citation analysis and selected source documents indicating that Sustainability (Switzerland) is the most cited source having 552 citations during 2018-2024.

Table 1. Most Cited Sources

Selected	Source	Documents	Citations
	Cogent Business and Management	5	38
	Frontiers in Psychology	4	32
	Heliyon	5	9
	International Journal of Environmental Research and Public Health	4	134
	Journal of Ethnic and Cultural Studies	3	5
	Journal of Retailing and Consumer Services	5	166
	Sustainability (Switzerland)	28	552

Source: Author's Calculation

3.1.1 Density Visualization

According to the analysis, the density visualization technique is applied to assess the top journal or source with the greatest number of citations. It can be easily evaluated that the Sustainability Journal of Switzerland, as shown in Table 1, has the highest number of 552 citations for 28 documents, Cogent Business and Management with 38 citations in 5 documents, followed by the Journal of Retailing and Consumer Services with 166 citations in 5 documents, Frontiers in Psychology Journal with 32 citations in 4 documents, the International Journal of Environmental Research and Public Health with 134 citations in 4 documents and the Journal of Ethnic and Cultural Studies with just 5 citations in 3 documents. Based on this information, seven top sources depict the higher number of citations per document, in the field of green advertising and skincare products in Figure 3.1.

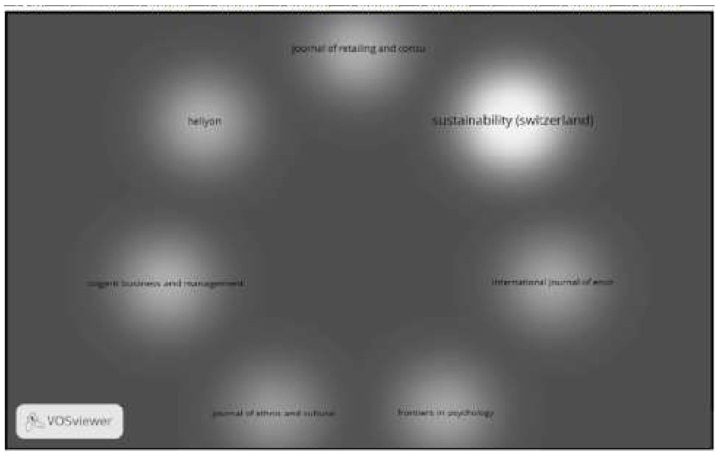

Figure 3.1
Density Visualization of Most Cited Sources

3.2 Keyword Analysis through Network Visualization

To address research question 2 (What are the most commonly used keywords in the literature on green advertising for skincare products?), we analyze the widely used keywords through a network visualization technique. An analysis based on the co-occurrence of all keywords is conducted in the study by setting a threshold lower limit of occurrences per keyword up to a limit of 6. Following these constraints, we identified 22 keywords from a total of 821 that met the criteria for green advertising and skincare. Subsequently, we removed some general keywords and selected 17 of these keywords, forming 3 clusters, which were most appropriate for this study.

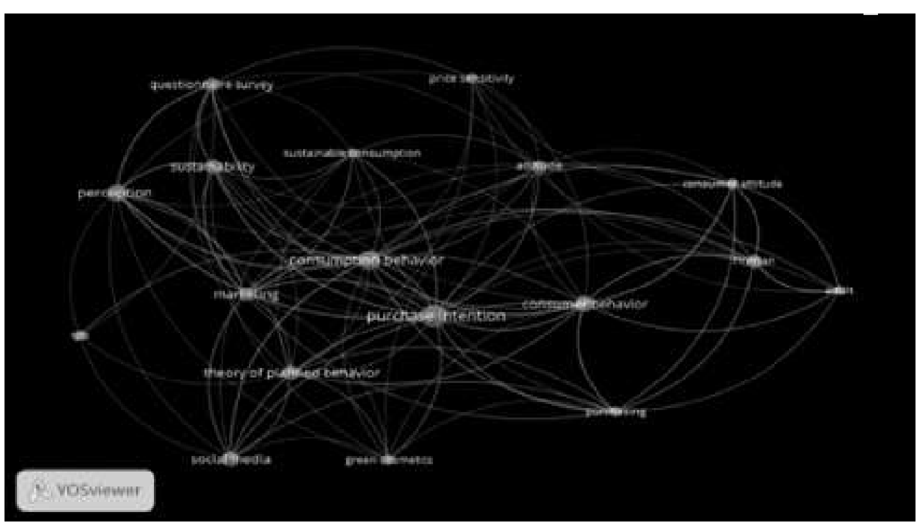

Figure 4.
Network Map of Top Keywords

The map's node size indicates keyword appearance frequency, with co-occurrence strength determined by node separation and line thickness in Figure 4. Keyword clusters, typically large research subjects, are represented by node shades (Gu et al., 2021). Figure 4 illustrates these clusters, highlighting the keywords with the highest frequency in clusters, represented by colored lines. These keywords encompass three clusters. Cluster 1 includes eight keywords i.e. attitude, marketing, perception, price sensitivity, purchase intention, questionnaire survey, sustainability, and sustainable consumption. Cluster 2 included items like consumer attitude, adult, consumer behaviour, human, and purchasing. Cluster 3 highlighted in Figure 4 below includes four keywords i.e. consumption behavior, green cosmetics, social media, and theory of planned behaviour in Table 2. These are mostly used keywords in past searches of articles related to green advertising and the skincare market.

Cluster	Keywords	Occurrence
3	Consumption Behavior	20
1	Purchase Intention	27
1	Perception	18
2	Consumer Behavior	13
1	Marketing	12
1	Sustainability	12
3	Social media	12
3	Theory Of Planned Behavior	12
1	Questionnaire Survey	10
2	Human	9
1	Attitude	9
2	Purchasing	6
2	Consumer Attitude	6
2	Adult	6
1	Sustainable Consumption	6
3	Green Cosmetic	6
1	Price Sensitivity	6

Table 2. Three Clusters Depending on Occurrence of Keywords

Source: Author's Calculation

3.3 Top Authors Based on Co-Authorship Analysis

To address research question 3 (Which authors under co-authorship, have been frequently cited which made the most significant contributions to the field of green advertising for skincare products?), we analyze the influential authors through collaborations on green advertising for skincare products through co-authorship analysis. This research question aims to identify the highest productive authors in terms of collaboration, which is an intellectual connection among different authors (Cisneros et al., 2018). As a result, Figure 5 analyzes and portrays a general reference based on top authors contributing to the research of green advertisement and skincare products using the Biblioshiny software, it remarks that Abdu & Hassan, Al Mamun, Abdullah, Helmi, Cristela, and Arnaldo are the top authors but further in this study, with the help of Vos-viewer, the top authors who contributed to the previous studies are analyzed and the top authors working in the field of green advertising and skincare based on co-authorship, by setting the first threshold limit at a maximum of 25 authors per document and a minimum number of documents per author is set to 2. We set a minimum number of citations per author at 3, with 16 authors meeting the threshold limit.

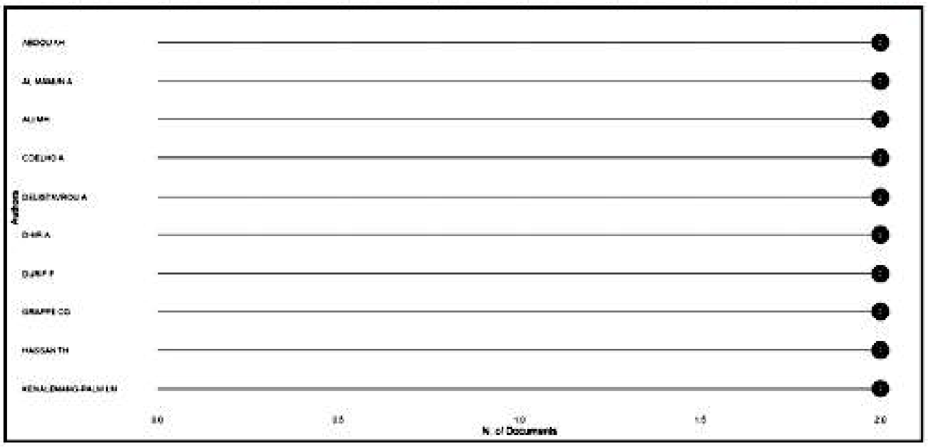

Figure 5.
Top Authors Based on Co-Authorship

The below data in Table 3 is tabulated based on the authors' total link strength, providing relevant information on the top authors who contribute to the study of green advertising and skincare based on co-authorship.

Table 3.
Highlighting Top Authors Per Document Citation

Author	Documents	Citations	Total link strength
Durif, Fabien	2	34	6
Grappe, Cindy G	2	34	6
Lombart, Cindy	2	34	6
Louis, Didier	2	34	6
Al Mamun, Abdullah	2	17	4
Ali, Mohd Helmi	2	17	4
Yang, Qing	2	17	4
Abdou, Ahmed Hassan	2	15	2
Coelho, Arnaldo	2	18	2
Delistavrou, Antonia	2	9	2
Hassan, Thowayeb H.	2	15	2
Miguel, Isabel	2	18	2
Tilikidou, Irene	2	9	2
Dhir, Amandeep	2	51	0
Khuwaja, Faiz Muhammad	2	80	0
Sheng, Guanghua	2	200	0

Source: Author's Calculation

3.3.1 Co-Authorship Analysis through Network Visualization

The figure below displays information through network visualization and reveals that Durif, Fabien Grappe, Cindy G., Lombart Cindy, Louis, and Didier are the authors with the highest number of 34 citations. This analysis is done by setting a minimum limit of two documents, with at least two minimum citations per author each containing a connected author. Furthermore, the analysis reveals that the four authors mentioned above in Table 3, out of 16, form a single cluster, as depicted in Figure 5.1 below using a network visualization.

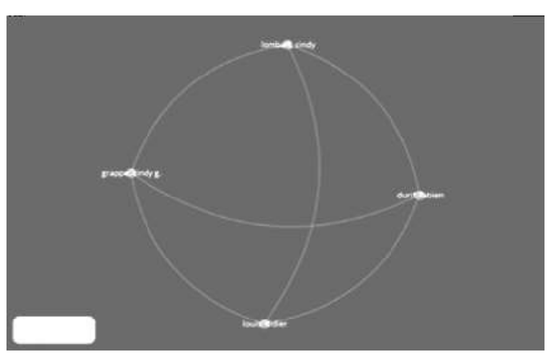

Figure 5.1
Network Map of Co-authorship on Green Advertising and Skincare with the Threshold of at least Two Articles

3.4 Top Countries Analysis Based on Citation

To address research question 4 (Which countries are the most active in research on green advertising for skin care products as per the citation patterns?), we analyze the publications by country. Figure 6 portrays the general reference based on the data using Biblioshiny software, it can be interpreted that China, Malaysia, Romania, Australia, and the United Kingdom are the top five countries with a maximum citation on the research related to green advertisements and skincare products, but while interpreting it through Vos-viewer software the interpretation led to the removal of some documents co-authored by multiple countries that ultimately change the countries ranking.

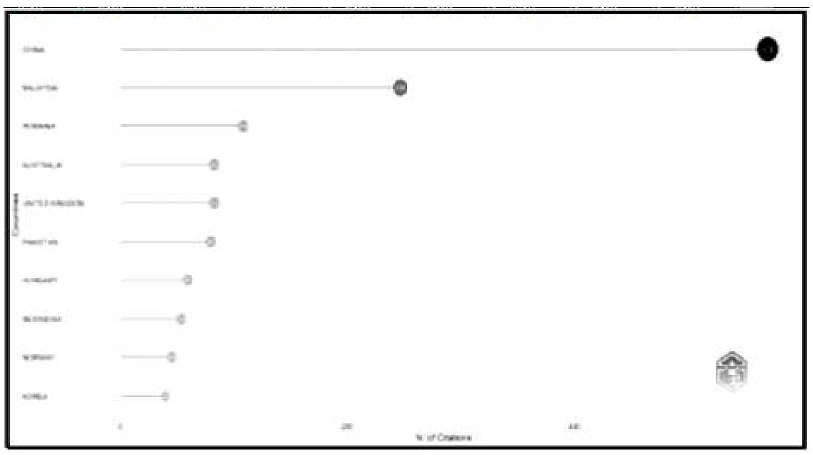

Figure 6.
Top Countries Based on Citation

The maximum number of countries per document is 25; the minimum number of documents per country is 4, and the minimum number of citations for a country is 2. After establishing the threshold limit, 17 out of 54 countries achieved it, with the top four countries ranking highest in citations. Australia has 193 citations in 5 documents, followed by Greece, which has 21 citations in 4 documents that show a strong impact in the areas of green advertising and skin care, placing it in the top 2 countries. The United Kingdom has 249 citations in 13 documents, which is more than Australia and Greece but lacks in total link strength. China with the maximum number of citations of 526 in 11 documents also has less total link strength suggesting that the influence of its research may be more concentrated as compared to Australia or Greece. Accordingly, we have tabulated additional data below in Table 4, considering the countries' citations in the documents.

Countries	Documents	Citation	Total Link Strength
Australia	5	193	3
Greece	4	21	2
United Kingdom	13	249	2
China	11	526	1
Malaysia	19	415	1
United States	5	30	0
India	8	73	0
Indonesia	15	88	0
Italy	8	44	0
Norway	4	111	0
Pakistan	4	82	0
Portugal	4	27	0
Saudi Arabia	5	28	0
South Africa	4	145	0
South Korea	6	95	0
Taiwan	6	122	0
Vietnam	5	43	0

Source: Author's Calculation

Table 4.
Top Countries Based on Citation

Hence, based on the citations and total link strength, Australia, Greece, the United Kingdom, and China are considered the top four countries having the highest citations.

3.4.1 Top Countries Analysis through Network Visualization

Figure 7 shows that Australia, Greece, and China have the most citations in the field of green advertising and skincare. The United Kingdom and China are the top countries with a high number of citations in green advertising and skincare, followed by Malaysia, the United States, and India. Indonesia, Italy, and Norway are the countries that have a good number of citations with 0 total link strength. Upon further analysis, we create a network visualization map that displays two clusters, each containing three items with connected links: Cluster 1 indicates a high citation relationship between Greece and Australia, and Cluster 2 (United States) probably shows its distinctive connection to other countries within the network.

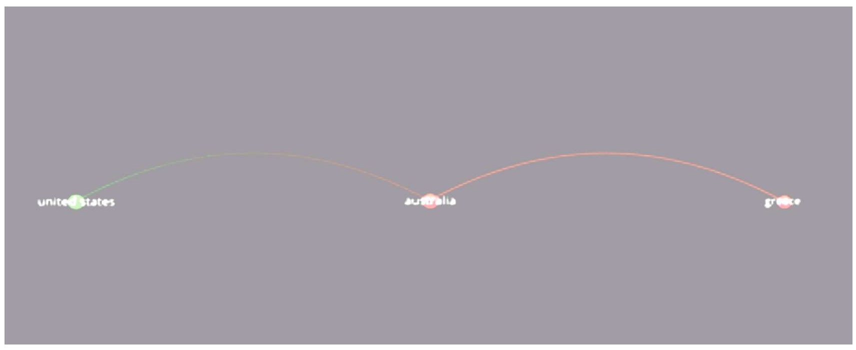

Figure 7.
Network Map Visualization of Top Interconnected Countries

3.5 Thematic Analysis

To address research question 5 (what are the relevant and developing themes in the field of green advertising for skincare products?), we conducted a thematic analysis, in which four major themes are highlighted in Figure 8, which were as follows:

1. Basic Themes: The main components of this section include the themes relevant to consumption behavior marketing, perception, government question survey, and sustainability, which are of high relevance and development degree, with themes based on cognition and social media being of less relevance in this section of analysis.
2. Motor Themes: These themes are of high relevance with a higher degree of development in the future, which indicates the key themes of e-commerce, purchase intention, human model technology, theory of planned behavior social networking, and online commodities.
3. Niche Themes: These themes are related to a green economy, human behavior, purchasing power parity, comparative study, spatiotemporal analysis willingness to pay, and environmental economics are the key emerging and developing themes in green advertisement.
4. Emerging or Declining Themes: This section includes emerging or declining themes, in this analysis themes related to carbon dioxide and lifestyle, both can be emerging themes in the field of green advertisement because there is a rise of carbon dioxide in the environment, which affects the environment, human lifestyles, etc. negatively.

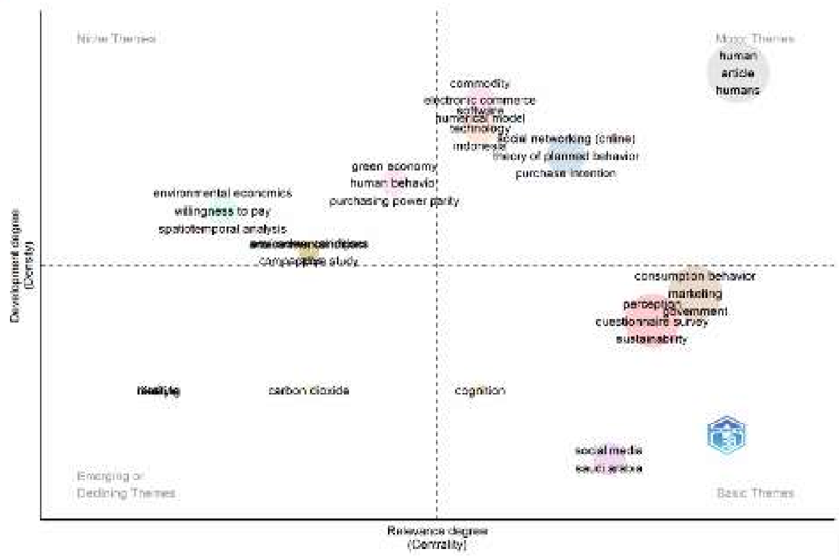

Figure 8.
Thematic Analysis

4. Conclusion

This study has a set data limit of 125 documents from the Scopus database based on the analysis mentioned earlier, which reveals the annual scientific production of articles on green advertising and skincare. The number of articles published annually in the Scopus database fluctuates yearly starting with the year 2018 significantly fewer (only 4) articles were published, it later gradually increased in the year 2023, with only 39 published articles, which is the highest published article annually, then a sharp decline has been witnessed in the year 2024 only 13 articles published. The study reveals that out of 69, seven sources were identified as the most cited source in green advertising for skincare products. The Sustainability Journal of Switzerland leads with 552 citations, followed by Cogent Business and Management with 38 citations across five articles, and the Journal of Retailing and Consumer Services with 32 citations in four articles, covering the period from 2018 to 2024. Furthermore, the study identifies the most commonly used keywords in the literature on green advertising for skincare products. It can be concluded that 17 keywords are widely used in a total of 821 keywords based on their co-occurrence. The keywords with the highest frequency in clusters, represented by colored lines, encompass three clusters. Cluster 1 comprises a total of eight keywords including attitude, marketing, perception, price sensitivity, purchase intention, questionnaire survey, sustainability, and sustainable consumption. Cluster 2 encompasses keywords like consumer attitude, adult behaviour, human behaviour, and purchasing while cluster 3 encompasses four key terms such as consumption behaviour, green cosmetics, social media, and theory of planned behaviour.

Moreover, this study analyzes authors under co-authorship, which reveals that co-authorship has received frequent citations and has made significant contributions to the field of green advertising for skincare products. Although 402 authors are active in green advertising, only 17 authors, including Durif, Fabien Grappe, Cindy G., Lombart Cindy, Louis, and Didier, have the highest number of 34 citations that align with the study's criteria. Moving forward, the present study also analyzes the countries that are most active in research on green advertising for skin care products, based on citation patterns. The study reveals that Australia with 193 citations in 5 documents, leads in the field, followed by Greece with 21 citations in 4 documents, the United Kingdom with 249 citations in 13 documents, and China with 526 citations in 11 documents. These countries are the most interconnected among the top performers.

The study highlights four relevant and developing themes in green advertising for skincare products through a thematic analysis. The first set of themes pertains to consumer behaviour, marketing, perception, government questionnaire surveys, and sustainability. These themes have a high level of relevance and development, while subjects based on cognition and social media are less relevant in this analysis. The next theme revolves around e-commerce. Purchase intention, human model technology, theories of planned behaviour, social networking, and online commodities are expected to continue their development in the future. Other emerging and developing themes in green advertising include human behaviour, purchasing power parity, comparative studies, spatiotemporal analyses, willingness to pay, and environmental economics. (Nayak et al. 2021) signifies a green trend, which is witnessed all over the world related to green cosmetics brands through conducting a bibliometric review of articles for a definite period. Yin et al. (2018) identified in their bibliometric analyses that there is a rise of a new concept called green innovation in the global markets by diversifying the contributions across the institutions. The landscape of green advertising may witness the emergence of a decline of themes related to carbon dioxide and lifestyle, as an increase in carbon dioxide levels hurts both the environment and human lifestyles. Thereby, recycling behaviour can be beneficial in the green skincare industry to help the environment in a better way (Phalgun & Goyal, 2020). This study contributes to mapping the landscape of green advertising in the skincare industry through bibliometric analysis, considering the increasing demand for skin care and the anticipated growth in this industry. Developed economies have an abundance of citations and publications in this field; a country like India is essential for promoting environmentally conscious and responsible consumer behaviour.

5. Future Direction

The study implies that the identification of the primary sources of information for skin care and green advertising makes it easier for future researchers to gather accurate data in this area. The study also identifies prominent authors who can collaborate with researchers and industry experts to produce tangible and valuable outcomes that the skincare industry can leverage to attract customers. Future researchers can identify trends in this field by utilizing commonly used terms such as sustainability, eco-friendliness, green cosmetics, and green brands. By adhering to the themes identified in the study, they can make informed decisions about which action plans to pursue or abandon in this field. The scope of this study is limited to a single source, namely the Scopus database review articles from 2018 to 2024. However, future researchers could expand their scope to include all types of documents from the Scopus database for further studies of the green skincare market and green advertising. They could also focus on metrics such as the H-index and i-10 of the contributing authors to present a more comprehensive brief review of the literature, thereby targeting different sectors and industries.

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An Empirical Examination of Promoting Employees' Green Behavioural Intention Through Green HRM Practices

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Abstract

Purpose: This study investigates the relationship between Green Human Resource Management (GHRM) practices and perceived usefulness among employees in higher education institutions, with a particular focus on the mediating role of green behavioural intention. Grounded in the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), and the Theory of Reasoned Action (TRA), this research employs a quantitative methodology to empirically examine the proposed relationships. Data were collected through a structured questionnaire administered to employees in both public and private higher education institutions in India. The study utilized a stratified random sampling technique, yielding a final sample size of 244 respondents.

To ensure the robustness of the measurement instrument, the study adapted validated constructs from existing literature. A pilot survey was conducted with 30 participants to assess the reliability and validity of the questionnaire. Reliability was confirmed through Cronbach's alpha, while construct validity was examined via confirmatory factor analysis (CFA). Hypothesis testing was performed using Structural Equation Modelling (SEM).

The findings reveal that GHRM practices positively influence employees' perceptions of ease of use and usefulness, which, in turn, foster green behavioural intention. Moreover, the results underscore the role of GHRM in enhancing employees' environmental awareness, competencies, and overall productivity, thereby facilitating the integration of sustainable practices within higher education institutions. These findings contribute to the growing discourse on sustainability-oriented HRM practices and provide practical implications for fostering environmentally responsible behaviours in organizational settings.

Keywords: Green Human Resource Management (GHRM), Higher Education Institutions, Green Behavioural Intention, Environmental Sustainability

1. Introduction

Research on GHRMP has grown substantially over the past 20 years (Shah et al., 2023) and provides important insights on green employee behaviour in response to changes in environmental, social conditions and economic at the workplace (Anwar et al., 2020). Higher education as a context is appropriately important for research as HR scholars routinely attempt to explore GHRM initiatives in employee behaviour as well as embed it in people's behaviour (Yong et al., 2019; Fawhinmi et al., 2020; Shah et al., 2024).

Past studies proved that GHRMP adopted by all the industries like tourism, hospitality (Luu, 2017), information (Ojo and Raman, 2019) and technology, automotive industries (Chaudhary, 2019) but very few study found in higher education institutions HEIs. According to a recent study by Zahid et al. (2020), corporate businesses are paying more attention towards sustainability. Higher education institutions (HEIs) were neglecting the GHRMP and sustainability, but it indeed growing in recent years. GHRMP and sustainability have become a major and important topic. As a result of these discussions, the research topic has been chosen to address the ongoing issues of an important area of study in the educational background of HEIs (Findler et al., 2019). Green human resource management practices

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(GHRMP) in HEI is one of the emerging areas of research with several research references in the Kingdom of Saudi Arabia, Asia-Pacific countries like Brazil, Pakistan, Malaysia, Thailand, Japan, India, Taiwan (Cronemberger de Araújo Góes & Magrini 2016; Gilal et al., 2019; Naim and Neel, 2012). Most of the time, the above mentioned processes are initiated, implemented and maintained by the HR department (Foroutan et al., 2018; Abbas et al.,2022). Over time, an expanding array of global HIEs has sought to incorporate sustainable environmental management and GHRMP into their offerings. Like International Journal of Sustainability in Higher Education (IJSHE) published special issue on "sustainability in higher education in the Asia-Pacific region". University Sains Malaysia's starts a special courses on sustainable development (SD), a pan institute take an initiative development and promotion of the suitability related program in the post-graduation education and in the research area (Fadeeva & Mochizuki, 2010). HEI urge for, attracting, retaining, and developing highly competent and trained academicians and students through GHRMP and SD, who can successfully address such dynamic difficulties of environmentally friendly sustainability is a rising challenge for institutions and organizations (Pop et al., 2018). HEIs, serving as both centres for teaching and research, are anticipated to assume a significant role in embracing approaches and choices to address contemporary environmental issues (Benayes et al., 2002; Disterheft et al., 2012; Leon et al., 2012; León & Domínguez 2015; Aboramadan, 2022). As asserted by Mohammed et al. (2020), fostering environmentally responsible behaviour among staff members is imperative for mitigating environmental degradation and promoting a sustainable environment within the realm of higher education. Gilal et al. (2019) found that GHRMP approaches encourage employee green behaviour. We are focused on HEIs are capable and accountable of educating society's stakeholders - including parents, teachers and students - about the importance of going green (Garavan et al., 2023, Acosta et al., 2022). This will help present and future generations to understand the value of adopting eco-friendly behaviour (Reiner & Morgan, 2018).HEIs need to set an example by reviving and acknowledging the changing demands and difficulties of environmental sustainability concerns (Finlay and Massey, 2012).HEIs should adopt a "go green" mind-set to promote an eco-friendly workplace (Gilal et al., 2019; Shah et al., 2023). Staff of higher education institutions including teachers, researchers, and administrative personnel need to incorporate environment-friendly practices into their daily routines and actively encourage such practices among students (Banyas et al., 2002; Abormadan, 2022). Though in few years have seen an increase in academic interest in "greening" employee behaviour, or encouraging people to act in an environmentally responsible manner (Tariq et al., 2016).Environmental concerns are taken seriously by policymakers, managers, and professionals in Asian nations, who develop eco-friendly methods that lessen the effects of climate change (Renwick et al., 2013).

In general, green behaviour intention refers to the intended actions taken by employees to support environmental management practices at the workplace (Dumont et al., 2017). The key to successfully implementing green practices in the workplace is seen as the green habits of the employees (Mohamed et al., 2019). Additionally, research has shown that educating HEI employees about green practices is essential for environmental management activities (Jabbor et al., 2008; Mazzy et al., 2016), as this will improve environmental performance (Al-Alawneh et al., 2024)and institutions will get a competitive edge (Kim et al., 2019).GHRMP is considered to be an important HRM technique for increasing the environmental awareness among the employees at workplace so that they can promote the green behaviour intention. Green hiring, green training, green rewarding, and green performance appraisal are some of the functions that GHRM processes aim to promote environmental leadership (Dumont et al., 2017; Jabbor et al., 2008; Renwick et al., 2013; Tang et al., 2018). Fawehinmi et al. (2020) found that GHRM increases green behaviours of academic employees through the mediating role of green behaviour intention (Shahzad et al., 2022). On the other hand, Gilal et al. (2019) found that including green behaviours of employees in the management doctrine of higher education organizations is essential to improving organizational, financial and environmental performance (Paillé et al., 2013) and to getting employee commitment. Now a day's more and more businesses are changing their ways to be better for the environment. They are focusing on green training programs to make their employees more aware. In the last ten years, researchers have paid more attention to GHRMP. However, most of them have focused on the service industry (Renwick et al., 2016). Also, higher education institutions in developing countries are trying to make people aware of the need for a greener environment, but there isn't much written about the green HRM perspective (Srivastava et al., 2020).

In this study, we aim to address the following questions, firstly how ease of use and perceived usefulness can influence GHRMPs. Second, how green behavioural intention plays a mediating role between ease of use, perceived usefulness, and GHRMP. Third, the most important question is how all these variables (ease of use, ease of use, green behavior intention, and GHRMP) relate to employee commitment towards green practices (Salsabiilla, 2023). After adding these variables, an attempt has been made to extend this study with the TAM approach. Another contribution of this study is to test the proposed model in higher education institutions. Therefore, for this, the data collected from the employees of the higher education institution including researchers, academic staff, and non-academic staff has been studied. In this, we offer empirical insight to check the positive impact of perceived ease of use and perceived usefulness on green HRM practices via green behavioral intention mediation (Figure 1).

2. Literature review

2.1 Technology Acceptance Model (why and what)

Davis introduced the Technology Acceptance Model in 1986 with the initial purpose of offering a broad explanation regarding the factors influencing the acceptance of computers. The main objective of TAM was to uncover the mechanisms behind technology adoption, predict behavior, and provide theoretical insight into the effective integration of technology (Davis et al., 2024). The TAM also aims to advise practitioners on preparatory measures to be taken before practical system implementation. To better understand the growth and development of TAM, it's necessary to give a brief overview of the ideas and models that came before and that influenced the formation of TAM. Research on technology acceptance began when technology became ubiquitous in efforts to enhance organizational performance. Many theories in this field aim to identify factors influencing an individual's acceptance of and engagement with a technology or information system. Discussions on successfully implementing technology in organizational settings often lead to the proposal of organizational-level TAM. Davis's TAM is one example, designed to articulate technology acceptance principles at the organizational level (Davis, 1986). TAM, a widely used fundamental and explanatory model, mainly considers perceived usefulness and ease of use as key variables associated with attitude and intention to use behaviour. However, TAM has faced criticism for its exclusive focus on users' perceptual and utilitarian judgments toward information technology. In response, Venkatesh and Davis (Venkatesh & Davis, 2000) expanded the TAM to include subjective norms, image, and job relevance. First, psychological theories were developed that tried to predict and explain those choices. The theory of planned action behaviour (TPB) and the theory of reasoned action (TRA) serve as the foundation of TAM (Marangunic and Granic, 2014). Based on Fishbein and Ajzen's Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 2011), Davis (Davis, 1985) proposed the TAM. TAM has been applied in various contexts to study the progress of innovations (Nikou and Baumann, 2014; Kim and Shin, 2015; Shin et al., 2018). This model is a useful place to start when analysing employee attitudes toward new technologies and how they are accepted. Ease of use and perceived usefulness are the two main elements in this model that determine an employee's intention to use or adopt technology and PU (perceived usefulness) is the employee's perception of value in adopting environmentally friendly practices at the workplace (Natasia et al., 2022). Determine as (Davis, 1985). TAM claims that the acceptance rate of a technology will increase when it increases performance or efficiency while requiring less effort on the part of the user (Davis, 1985; Davis, 1989).

TAM can promote the environmental awareness of an organization's employees by taking initiatives such as environmental education, training, and implementing policies that provide rewards for environmentally friendly behaviour. This approach enhances employees' understanding of environmental protection, increases their awareness and underlines the importance and practicality of adopting GHRMP in the workplace. On the other hand, organizations can integrate environmental protection principles throughout the career span of their employees, leading to a greater focus on environmental concerns. For example, this can be achieved by instilling green values during the recruitment process. Similarly, in this study, employee ease of use (EU) describes the extent to which employees find it easy to adopt environmentally friendly practices in the workplace. To reduce resistance to green behaviour in the workplace, institutions have sought to engage academic staff, students, and non-academic staff by actively involving management, empowering employees, and offering GHRMP (Venkatesh et al., 2012). Have developed capabilities and opportunities for.

2.2 Willingness to adopt

TAM states that adoption is driven by the intention to use a specific technology, which is dictated by the perceived usefulness and applicability of the system. In other words, the object of a decision serves as its conclusion (Davis, 1989). It expresses a person's propensity to engage in a behaviour and their level of readiness to make an effort to do so (Sheeran et al., 2006). A person's attitude towards a technology ultimately determines whether they want to use or accept it, which leads to their actual use, taking into account both social and personal attitudes to TAM (Ajzen & Driver, 1991). Human behavioural variables were also emphasized by Walker (Walker, 2011) as an important component of how decisions are made in adopting methods in educational institutions, especially educational technology. To further understand the implementation of this method, we looked at factors that may influence one's decision to use technologies in the higher education sector.

2.3 Perceived ease of use and green behavioural intention-

Perceived ease of use is one of the core concepts of UTAUT and TAM (Ge & He, 2020), which is defined as "the degree of usability associated with the usage of a new technology or a technology product" (Huang & Kao, 2015; Shahzad et al., 2022). Shahbaz et al., (2021) explain that perceived ease of use is an individual's expectation that using technology will make a task easier. According to Venkatesh et al. (2003), the degree of comfort people experience when using social media. This construct perceived ease of use or complexity of use (Zhao &Bacao, 2020), which refers to how simple or difficult innovative technology is to use and comprehend. The depth of the new technology may harm its widespread adoption (Dangelico, 2017). According to Al-Saeedi et al. (2020), it is predicted that as novel technology becomes easier to access, individual behavioural intentions will decrease. Al-Saedi et al. (2020), the expectation is that as new technology becomes more user-friendly, individual behavioural intentions will decrease. Using new technology, such as online banking and shopping, has been found to be detrimental to effort expectations, according to some study investigations (Chopdar & Shivakumar, 2019). Using and validating green behavioural intention with green HRM practices, the most recent studies found that perceived ease of use significantly affects the use of novel technologies and users' satisfaction (Shang & Wu, 2017; Anser et al., 2020;Al?Ghazali&Afsar, 2021). Furthermore, in the context of our study, perceived ease of use and individual green behaviour intentions improve green human resources practises and the adoption of green practices in comparison to non-green habits (Ma et al., 2017; Ma et al., 2017; Al-Saeedi et al. 2020; Shahzad et al., 2022). Accordingly, the recommended hypothesis is proposed:

H1: Perceived ease of use has a favourable impact on green behavioural intention.

2.4 Perceived usefulness and green behavioural intention-

According to TAM, an individual's understanding of the improvement in efficiency and performance brought about by the adoption of a particular technology is measured by how useful they consider it to be (Davis, 1989). The prefabrication approach has many benefits, such as higher involvement, speed, and efficiency (Warszawski, 2003; Arman, 2015), improved education quality and management, and enhanced productivity and employee participation (Li et al., 2014; Blismas & Wakefield, 2009; Park et al., 2011). Perceived useful known as a user's expectation that using technology will improve their overall performance (Venkatesh et al., 2003; Shahbaz et al., 2021). The use of social media can influence the intentions of employees towards green behavioural intention and can also lead to changes in them to enhance the performance of their specific tasks (Venkatesh et al. 2003; Shahzad et al., 2022). It is "the extent to which a person believes that utilising the system will assist him or her in achieving advances in work performance" (Venkatesh et al., 2003; Kanfer & Chen, 2016). There are four key indicators of perceived usefulness measurement which are performance expectancy, job fit, extrinsic motivation and comparative advantage and all these indicators are very useful for performance measurement (Huang & Kao, 2015). According to Zhao and Bacao (2020), it is the most important factor in determining an individual's intention to accept new technology and level of pleasure (Zhao & Bacao, 2020). Some previous research has confirmed that perceived usefulness has a favourable and significant effect on the adoption and retention of cutting-edge technology such as mobile banking. Perceived usefulness may have a significant impact on GBI in the context of this study because many green criteria, including supplier selection, purchasing, industrial engineering, and consumerism, all have a significant impact on green behavioural intention (Anser et al., 2020). Several research has shown that employees understanding of green behavioural intention has a favourable impact on green hrm practices (Hsu et al., 2017). Accordingly, the recommended hypothesis is proposed:

H2: Perceived usefulness have a favourable impact on green behaviour intention.

2.5 Green behaviour intention (GBI) and Green human resource management practices (GHRMP)-

This study advocates the adoption of an approach in which employees' intention to adopt green concepts in the presence of green practices is determined based on their perceived ease of use and perceived usefulness to adopt GHRMP in the future. According to modern green management literature, the definition of "green behaviour intent" is "the willingness of employees to create goals that achieve ecologically friendly objectives in the corporate sphere of activity" (Al-Jawahreh et al., 2019; Ali & Hassan, 2023). According to psychologists and social scientists, behavioural intentions always have a significant impact on actual behaviour (Straub, 2009; Zafar et al., 2020).Attitude of an individual is defined as the behavioural intention that an individual will perform a given behaviour (Bhaduri, 2020). The term "green behavioural intention" (GBI) in this study refers to how much a person is willing to put much effort in terms of perceived ease of use and perceived usefulness to protect the environment (Ali & Hassan, 2023; Huang & Kao, 2015).Norton et al., (2017) explain employees' green behavioural intentions refer to their will to act in a sustainable manner. Green behavioural intention helps to personnel to sets goal towards the protecting the environment and sustainable development. This behaviour showing the participation of green hrm practices and increasing the others inner motivation (Li et al., 2021).

The literature on GHRMP is based on interdisciplinary organizational studies in employee engagement, organizational culture, performance management, human resource practices, management, and developments (Haddock-Miller, Sanyal, & Muller-Kamen, 2015; Ren et al., 2018; Al-Ghazali and Afsar, 2021). GHRM designs strategic operating processes to promote a institution's sustainable performance (Saeed et al., 2019). In the modern era, the primary focus of the organizations has evolved first on environmental protection from strategies to business strategies; As a result, HR must now incorporate environmental protection practices into alignment with their corporate-level plans (Al Ghazali&Afsar, 2021). According to Boudreau and Ramstad (2005) people may be inspired by HR to engage in sustained prosocial activity through the adoption of green behavioural intention in practices. As a result, Saeed et al., (2019) pro-environmental behaviour of employees can be improved, environmental waste can be reduced (Robertson & Barling, 2013), and contribute towards (Cheema et al., 2020) green culture. All these efforts can improve environmental sustainability (Gilal et al., 2019).

Adoption of GHRMP through green behavioural intent, environmental protection concepts and strategies have been incorporated into recruitment efforts, infusing green development themes in the training initiatives. Firstly, it strengthens the growth approaches used by businesses, their feelings towards organizations, and employees' perception of sustainability.

On the other hand, it modifies employees' cognitive and emotional responses to the idea of going green, which affects their behavioural intention and, ultimately, how they behave at work. Green performance appraisals encourage employees to adopt green behavioural intention (environmentally friendly behaviour) and thus encourage them to act on green initiatives and innovation ideas (Al & Afsar 2021). Green HRM encourages staff members to contribute to the organization's green development plan and make recommendations for the development of the organization's green initiatives. Ahmad et al. (2019) stated that employees feel connected and see themselves as contributors to environmentally sustainable practices through green behavioural intention and green human resource practices. Accordingly, the recommend hypothesis is proposed:

H3: Green behaviour intention have a favourable impact on Green human resource management practices.

2.6 Mediating role of green behavioural intention (GBI)-

Behavioural intentions always have a significant impact on actual behaviour, according to psychologists and social scientists (Straub, 2009; Zafar et al., 2020). The forecasting of real behaviour is still difficult, though. Intentional conduct refers to "the extent to which an individual has formulated intentional strategies to either do or not do some specified future behaviour (s)" (Huang & Kao, 2015). Venkatesh et al. (2012), a previous researcher, found that behavioural intention about technology adoption has a significant effect on practical technology adoption. As a substitute for real adoption behaviour, intention behaviour has been used by many researchers (Karampournioti & Wiedmann, 2021; Zafar et al., 2020). The term "green behavioural intention" describes people's intentions to adopt sustainable or ecologically friendly behaviours. Researchers have looked at how people's views about green technologies and how they might affect the environment have an impact on their intention to adopt and use those technologies in the context of how the Technology Acceptance Model and green behavioural intention intersect. This integration tries to comprehend the extension of the green hrm practices framework to anticipate and explain environmentally friendly behaviours.

As a result of influencing employees' attitudes, subjective norms, and perceptions of behavioural control, green practises including hiring, training, performance evaluation, and employee involvement in green human resource management really put pressure on them. For example, altering the perception of the environment can be achieved through various measures such as acknowledging and rewarding employees for their contributions to the organization's green policy. Additionally, hiring individuals with a strong commitment to environmental awareness, consciousness, beliefs, and knowledge, providing consistent training to enhance motivation for participating in eco-friendly practices, and implementing modern strategies to elevate employees' environmental engagement and commitment can collectively influence people's attitudes toward the environment and sustainability. Employee eco-initiatives are positively correlated with environmental policy variables and management support behaviours. Human resources management policies have the power to successfully match employees with an institution's environmental plan (Renwick et al., 2013). Employees would be excited and encouraged to demonstrate GBI because GHRMP has a positive impact on the environment. Employees' knowledge of the significance that the organisation places on the environment will grow when they learn that the organisation values and supports green behaviours. Thus, it will motivate workers to adopt environmentally friendly practises. In return for the organization's assistance, they will likewise exhibit highly green behavioural goals. Employees' motivation to contribute to the company will be stimulated, for instance, by offering training and awards for eco-friendly behaviour. Employees will assist businesses in implementing green performance to meet criteria and receive organizational rewards. So their willingness to behave in a strong way drives green behavioural intention. Green HRM training programs should be designed and built in such a way (Dumont et al., 2017), that awareness of its essential values, attitudes and knowledge about the environment can be effectively implemented.

According to Tang et al. (2018), green HRM practices can encourage employees to pursue eco-friendly goals and show a higher level of concern for the environment. Research by Saeed et al (2019) has also shown that GHRMP increase environmental consciousness, motivation, and commitment among employees. Evangelinos & colleagues (2015) propose that individuals exhibiting green behavioural intentions are those who comprehend the complexities of environmental issues, show concern for the condition of the environment, and actively work towards conserving it for future generations. Adverse consequences are those that give rise to personal responsibility and ultimately activate a moral obligation to engage in that particular activity, in the case of green behaviour. The connection between environmentally conscious behavioural intentions and the implementation of GHRMP practices is a significant subject explored within the literature on environmental psychology. Certain prior studies indicate that holding environmentally friendly attitudes can serve as a predictor for behaviours related to the environment. For instance, a meta-analysis conducted by Bamberg and Moser in 2007 revealed that, on average, 27% of the variation in pro-environmental actions was accounted for by intentions to engage in environmentally friendly behaviour. Zhang et al., (2019) state that employees may establish green behaviour intentions after realizing the need for green behaviour and its everyday implementation, and subsequently adopt related green HRM practices.

Green HRM strategies assist businesses in identifying opportunities that could boost energy management effectiveness and improve communication with a range of environmental partners. The need of motivating employees to fulfil their environmental obligations is emphasized by green HRM practices. For businesses to project a green image, environmental management initiatives must be better integrated with HRM procedures. GHRMP encompass the development of environmental management initiatives in higher education, formulation of green goals and responsibilities, encouragement of staff commitment and participation in eco-friendly activities, initiation of new employees into green initiatives, orientation of the organization towards environmental stewardship, promotion of green mutual citizenship behavior, and the provision of regular feedback opportunities to individuals or teams to attain environmental objectives (Saeed et al., 2019). Cheema et al. (2020) stated, the primary desirable result of green HRM practices are to produce environmentally conscious individuals who are designing jobs and work accordingly environmental friendly behaviour as well as enable educating employees about the environment. An organization's HRM practices shape the attitudes, intentions, and behaviours of its employees (Nishii et al., 2008).As a result, if an organization incorporates greening into its HR policies, employees will exhibit behaviours that are consistent with the organization's green goals. Therefore, employees are more likely to be innovative in developing green ideas that can contribute to the organization's effectiveness in higher education institutions. Furthermore, the adoption of green policies that recognize and reward environmental efforts, ideas, performance, and innovations have been shown to increase employee enthusiasm to engage in green activities (Renwick et al., 2013).

Dumont et al. (2017) found that the implementation of green Human Resource Management (HRM) in an organization influences environmentally friendly behaviours in the workplace. While some scholars use the term "green behaviour intention" to describe employees' environmentally conscious actions, most argue against this practice, citing evidence that intention is generally only loosely connected to actual behaviour. Additionally, Webb and Sheeran (2006) observed that measures intended to alter intentions had a minor or moderate impact on subsequent behaviours. Conversely, two meta-analyses in the field of environmental psychology suggested a positive association between overall green behavioural goals and environmentally friendly behaviour outside of the workplace. Norton et al. (2017) investigated the correlation between employees' green behavioural intentions and their actual behaviours with a one-day time lag. Their findings indicated a significant predictive impact of employees' green behavioural intentions on their subsequent environmentally friendly behaviours. According to Ajzen (1991), any factor influencing behaviour will also affect performance. He asserts that behavioural intention is shaped by behavioural attitudes, subjective standards, and perceived behavioural control. However, the process of continuously processing information that occurs as a result of an individual's engagement with numerous types of information is what truly leads to the development of both behaviour attitudes and subjective norms.

In green HRM, organizations promote environmental protection ideas and tactics during the hiring process and incorporate information about green development into the training process. First, it's strengthens employees' perception of institutions' adoption of a sustainable development strategy and their feelings toward higher education. On the other hand, it alters employees' cognitive and emotional responses to the idea of going green, affecting their behavioural intention, which is influenced in their work actions. Green performance evaluation limits employees' subjective norms to ensure that they adhere to the organization's management structure (Glavas, 2016). Additionally, workers desire improved welfare. Green performance evaluation will inspire employees to adopt environmentally friendly behaviours, which will subsequently encourage the creation of green initiatives and ideas. Employees are encouraged to contribute to the green growth strategy of the organization and make suggestions for green growth of the enterprise using GHRMP. Organizations give opportunity to the employees participate, which will increase their sense of accountability. The institutes will project a statue of an ethical and responsible institution which will aid in protecting environment by using GHRMP. Personnel feel connected and recognized with these ethical activities, which reinforces the intention to engage in green behavioural intention (Ahmed et al., 2019).Employees that are more environmentally conscious will be more inclined to come forward with novel approaches and environmentally friendly solutions to problems. Additionally, staff members would apply unorthodox strategies to develop concepts that will aid in reshaping processes to be more environmentally friendly. Employees will feel more comfortable aligning themselves with a responsible firm since they know their employer is more ethical and responsible, which will improve their perception of themselves as responsible citizens (Farooq et al., 2014). As individuals perceive that ethical companies not only refrain from discouraging but actively promote and reward such behaviour, they are more inclined to freely share their innovative ideas, specifically those related to environmentally friendly practices (referred to as green innovation), without apprehension of facing adverse consequences (Ahmad et al., 2019).

Employees with GBI will be compelled to with innovative plans and solutions to challenges that are environment-friendly. Furthermore, the personnel will think outside the box to come up with green ideas that will make the processes more and more eco-friendly. Employees will feel more comfortable aligning themselves with a responsible firm because they know their employer is more ethical and responsible (Farooq et al., 2014). As a result, the image of the employees as a good citizens will improve. They would be more willing to share their original concepts (i.e., green innovation) without fear of negative consequences because they would believe that such ethical institutions would not discourage them but instead encourage green behaviour intentions and green HRM practices. (Ahmed et al., 2019). In light of the foregoing, it follows that perceived ease of use and perceived usefulness have an impact on an employee's willingness to engage in environmentally friendly behaviour, which in turn has an impact on green HRM practices. Accordingly, the recommend hypothesis is proposed:

H4: Green behavioural intention mediates the relationship between perceived ease of use and perceived usefulness and positively influences green HRM practices.

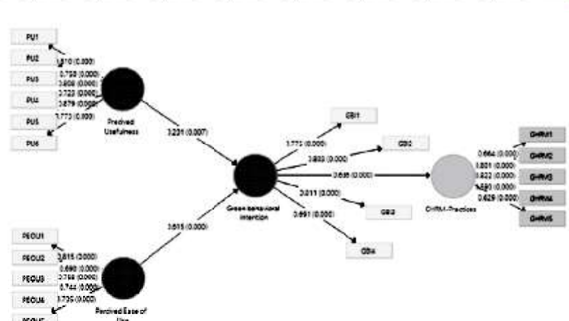

Figure 1.
SEM Model- Regression Analysis

3. Method-

3.1 Data analysis-

The present study employs Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis, conducted using the statistical software SmartPLS (3.2.8). The decision to adopt this analytical approach is based on the characteristics of the dataset, the mediation analysis requirements, and its increasing popularity in research domains such as human resource management, sustainability studies, and organizational behaviour (Tian et al., 2020; Hair et al., 2012; Kura et al., 2015). PLS-SEM has been recognized as an effective tool for predicting dependent variable effects (Hair & Ringle, 2016) and for establishing relationships between constructs in a theoretical research model (Davari & Rezazadeh, 2013). Given that this study explores the interplay between GHRM practices, perceived usefulness, and green behavioural intention, the use of PLS-SEM is justified as it allows for a robust examination of direct and indirect relationships in the proposed framework.

PLS-SEM, as a second-generation statistical method, enables the analysis of both large and small datasets while examining additive and linear causal relationships within theoretical constructs (StatSoft, 2013). One of the key advantages of SEM is its ability to model latent variables that are not directly observable, making it a suitable method for analysing perceptions, attitudes, and intentions in behavioral research. This analytical technique assesses both the measurement model (external model) and the structural model (internal model), allowing for an in-depth evaluation of the relationships between constructs (Vinzi et al., 2010). Specifically, SmartPLS facilitates variance-based structural modelling, which is particularly advantageous for exploratory research in the field of GHRM and sustainability.

3.2 Respondent Profile and Demographic Characteristics

The sample for this study comprises 244 employees from various public and private higher education institutions in India. The study adopted a stratified random sampling technique to ensure adequate representation across institutions. Demographic characteristics of the respondents are detailed in Table 1 below.

Table 1. Respondent Demographic Profile

Demographic profile		Frequency	Percent
Gender	Male	170	69.8
	Female	74	30.2
Age	21-30 years	130	53.5
	31-40 years	108	44.2
	41-50 years	6	2.3
Qualification	Undergraduate	106	43.6
	Postgraduate	121	49.3
	Ph.D	17	7.1
Experience	0 to 5	232	95.3
	11 to 15	6	2.3
	16 to 20	6	2.3
			100

Source: Author's own compilation

The demographic data reveal that 69.8% of the respondents are male, while 30.2% are female. The largest proportion of participants (53.5%) falls within the 21-30 years age group, followed by 44.2% in the 31-40 years category, and a smaller subset (2.3%) aged between 41-50 years. Regarding educational qualifications, a significant proportion of respondents hold postgraduate degrees (49.3%), while 43.6% possess undergraduate degrees, and 7.1% have attained a Ph.D. qualification.

In terms of work experience, the majority of respondents (95.3%) have between 0 to 5 years of experience, indicating a workforce largely composed of early-career professionals. A relatively small proportion of respondents possess 11-15 years (2.3%) and 16-20 years (2.3%) of professional experience.

This demographic overview provides critical insights into the sample characteristics, ensuring a diverse representation of gender, age, qualifications, and experience levels within the higher education sector. The findings contribute to a more nuanced understanding of how GHRM practices influence perceived usefulness and green behavioural intention, thereby informing sustainability-oriented HRM policies in higher education institutions.

Discriminant validity- Hair et al. (2019) suggest utilizing cross-loadings, the Forner-Lacker criterion, and HTMT as methods for evaluating discriminant validity. To establish discriminant validity, the outer loading of an item within a construct should exceed the cross-loadings of the same item in any other construct. The outer loadings of all items within the construct were found to be greater than the cross-loadings of the corresponding items in other constructs, confirming the discriminant validity of the latent variables as presented in Table 2.

Table 2.
Discriminant validity fornell - larcker criterion

	perceived ease of use	GHRM-Practices	Green behavioural intention	Perceived usefulness
Perceived ease of use	0.744			
GHRM-Practices	0.755	0.708		
Green behavioural intention	0.757	0.636	0.771	
Perceived usefulness	0.709	0.738	0.637	0.762

Source: Author's own compilation

To assess the discriminant validity of latent constructs using the Fornell-Larcker criterion, we compare the square root of the average variance extracted (AVE) for each construct with the correlations between that construct and other constructs. The Fornell-Larcker criterion see in Henseler et al., (2014). Suggests that the square root of the AVE for each construct should be greater than the correlations with other constructs in order to establish discriminant validity.

Perceived ease of use: Square root of AVE = 0.744, Correlations: GHRM-Practices (0.755), Green behavioural intention (0.757), Perceived usefulness (0.709), the square root of the AVE for perceived ease of use is greater than its correlations with other constructs.

GHRM-Practices: Square root of AVE = 0.708, Correlations: Perceived ease of use (0.755), Green behavioural intention (0.636), and Perceived usefulness (0.738), the square root of the AVE for GHRM-Practices is greater than its correlations with other constructs.

Green behavioural intention: Square root of AVE = 0.771, Correlations: Perceived ease of use (0.757), GHRM-Practices (0.636), Perceived usefulness (0.637), the square root of the AVE for Green behavioural intention is greater than its correlations with other constructs.

Perceived usefulness: Square root of AVE = 0.762, Correlations: perceived ease of use (0.709), GHRM-Practices (0.738), Green behavioural intention (0.637), the square root of the AVE for perceived usefulness is greater than its correlations with other constructs. Based on the Fornell-Larcker criterion, we can conclude that discriminant validity is established among the latent constructs, as the square root of the AVE for each construct is higher than its correlations with other constructs.

Descriptive statistics- The table- provides information about the mean, standard deviation (SD), and inter correlations between four variables: Perceived ease of use, GHRM-Practices, Green behavioral intention, and Perceived usefulness. The values in the table represent the correlation coefficients between each pair of variables Dijkstra & Schermelleh-Engel (2014). With a threshold value of significance typically set at 0.05, we can interpret the inter correlations (Goodhue et al., 2006; Lu et al., 2011; Reinartz et al., 2009).

Table 3.
Mean, SD, and inter correlations

	Perceived ease of use	GHRM-Practices	Green behavioral intention	Perceived usefulness
Perceived ease of use	1	0.755	0.757	0.709
GHRM-Practices	0.755	1	0.636	0.738
Green behavioral intention	0.757	0.636	1	0.637
Perceived usefulness	0.709	0.738	0.637	1

Source: Author's own compilation

The perceived ease of use variable has a strong positive correlation (0.755) with GHRM-Practices, indicating that as the perceived effort required increases, the adoption of good green human resource management practices also tends to increase. There is a moderate positive correlation (0.757) between perceived ease of use and GBI, suggesting that as the perceived effort increases, individuals are more likely to exhibit environmentally friendly behaviours. GHRMP and GBI have a moderate positive correlation (0.636), implying that the adoption of GHRMP is associated with a higher intention to engage in environmentally friendly behaviours.

The correlation between GBI and perceived usefulness is relatively low (0.637), indicating a weak positive relationship between an individual's intention to engage in environmentally friendly behaviours and their expectations of performance outcomes (Goodhue et al., 2006; Lu et al., 2011; Reinartz et al., 2009). These findings provide insights into the relationships between the variables and can be used to understand the potential impact of perceived effort, GHRMP, and performance expectations on individuals' intention to engage in green behaviours.

Table 4.
Total Effects Mean, SD

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**
Perceived ease of use -> GHRM-Practices	0.39	0.39	0.06	6.14	0.00
Perceived ease of use -> Green behavioural intention	0.62	0.61	0.08	7.65	0.00
Green behavioural intention -> GHRM-Practices	0.64	0.64	0.06	11.65	0.00
Perceived usefulness -> GHRM-Practices	0.13	0.13	0.05	2.41	0.02
Perceived usefulness -> Green behavioural intention	0.20	0.21	0.08	2.57	0.01

Source: Author's own compilation

The table-4 presents the results of the statistical analysis, focusing specifically on the total effects between variables. Each row in the table represents a specific relationship, and the columns provide information about the mean, sample mean, standard deviation (STDEV), t-statistics, and p-values. Using a threshold value of significance typically set at 0.05, results can be interpreted (Gudergan et al., 2008). The research results found a positive and statistically significant relationship between ease of use and GHRMP (mean = 0.39, STDEV = 0.06, t-statistic = 6.14, $p < 0.05$). This means that as ease of use increases, adoption of GHRM-practices increases. There is also a positive and statistically significant relationship between ease of use and GBI (mean = 0.62, STDEV = 0.08, t-statistic = 7.65, $p < 0.05$). As a result of increased ease of use, individuals' intention to engage in green behaviour also increases. Which leads to a positive and highly statistically significant relationship between green behavioural intention and GHRM-practices (mean = 0.64, STDEV = 0.06, t-statistic = 11.65, $p < 0.05$). This implies that a stronger intention to engage in green behaviour is associated with greater adoption of GHRMP. And it shows a positive and statistically significant relationship (mean = 0.13, STDEV = 0.05, t-statistic = 2.41, $p < 0.05$) between perceived usefulness and GHRM-practices.

There is a positive and statistically significant relationship between perceived usefulness and Green behavioural intention (mean = 0.20, STDEV = 0.08, T-statistics = 2.57, $p < 0.05$).This suggests that as perceived usefulness increases, individuals' intention to engage in green behaviours also tends to increase, though again, to a lesser extent compared to the other relationships. The results provide empirical evidence for the relationships between these variables and highlight their significance in the context of the study.

Table 5.
Factor Loadings

	Perceived ease of use	GHRM-Practices	Green behavioural intention	Perceived usefulness
PEOU1	0.815			
PEOU 2	0.69			
PEOU 3	0.758			
PEOU 4	0.744			
PEOU 5	0.705			
GBI1			0.775	
GBI2			0.803	
GBI3			0.811	
GBI4			0.691	
GHRM1		0.664		
GHRM2		0.801		
GHRM3		0.822		
GHRM4		0.59		
GHRM5		0.629		
PU1				0.61
PU 2				0.75
PU 3				0.808
PU 4				0.723
PU 5				0.879
PU 6				0.773

Source: Author's own compilation

Four measurement perspectives- Perceived ease of use, perceived usefulness, green behavioural intention, and green HRM practices-were included in the survey. The seven-point Likert scale, where 1 indicates "strongly disagree" to 7 indicates "strongly agree", allows respondents to tick the appropriate boxes. The questionnaire's reliability ratings were over the threshold of 0.7 set by Nunnally and Bernstein (1978), indicating that the items had a high degree of reliability.

Green HRM practices- The Green Human Resource Management (GHRM) scale employed in this research, comprising six items, was adapted from the multidimensional GHRMP (Green Recruitment and Selection, Green Training and Development, Green Performance Management and Appraisal, and Green Reward and Compensation) originally formulated by Dumont et al. (2017). Based on the amount of items in ever y of the variables, weighted scores were used to compute the overall score for green HRM practises. For this scale, the Cronbach alpha value is 0.837.

Green behavioural intention- Under this variable we adopted the four-item on GBI adopted from Boiral & Paillé (2012). The Cronbach's alpha for this scale is 0.852. Items are included "adopt more environmentally conscious behaviour, to express their ideas and opinions on environmental issues, actions that contribute positively, new practices that could improve the environmental performance".

Perceived ease of use and Perceived usefulness - For these two variables we adopted five and six items respectively from Al-Ajlouni et al., (2019) and Venkatesh et al., (2003). The Cronbach's alpha for this scale is 0.86 and 0.895.Items are included "system would be clear and understandable, easy system to become skilful at using, easy to use, learning to operate the system is easy, straightforward interaction" and "system useful in job, accomplish tasks more quickly, increases my productivity, increase my chances of getting, improve productivity, performing duties in more appropriate way".

The "GHRM Practices" construct exhibits factor loadings ranging from 0.59 to 0.822, which indicates a moderate to strong relationship with its observed indicators. Lastly, the "Perceived usefulness " construct displays factor loadings ranging from 0.61 to 0.879, indicating a moderate to strong relationship as well. These recommended values by (Hair et al., 2022) Suggest that the latent constructs in the analysis have reasonable associations with their corresponding observed indicators. It is important to interpret these factor loadings within the context of the specific research study and consider other factors such as sample size, theoretical framework, and research objectives when drawing conclusions from the analysis.

ITEM	VIF	ITEM	VIF
PEOU 1	2.026	GHRM1	1.522
PEOU 2	1.577	GHRM2	1.793
PEOU 3	2.292	GHRM3	1.598
PEOU 4	2.216	GHRM4	2.19
PEOU 5	2.045	GHRM5	1.952
GBI1	1.642	PU 1	2.602
GBI2	2.687	PU 2	2.616
GBI3	2.635	PU 3	2.206
GBI4	1.729	PU 4	2.132
		PU 5	1.933
		PU 6	1.853

Table 6. The Structural Model Collinearity assessment (inner Variance inflation factor values)

Source: Author's own compilation

The table-6 presents the Variance Inflation Factor (VIF) values for various variables, indicating the degree of collinearity or multi collinearity among them. Collinearity refers to the high correlation between independent variables, which can affect the statistical analysis. In general, VIF values greater than 5 or 10 are considered indicative of multi collinearity (Hair et al. 2014).

Using a threshold value of 5 as an indicator of potential multi collinearity, the variables PEOU1, PEOU3, PEOU4, PEOU5, GBI1, GBI2, GBI3, GBI4, PU1, PU2, PU3, PU4, and PU5 have VIF values below the threshold, indicating a relatively low level of collinearity.

The variables PEOU2, GHRM1, GHRM2, GHRM3, GHRM4, GHRM5, and PU6 have VIF values slightly above the threshold (between 2 and 3), suggesting a moderate level of collinearity. However, these values do not exceed the commonly accepted threshold of 5, indicating that multi collinearity may not be a significant concern Hair et al. (2014).

It is important to note that the interpretation of collinearity depends on the specific context and the purpose of the analysis. It is recommended to examine other diagnostic measures and consider the research question in conjunction with the VIF values to make a comprehensive assessment of collinearity (Hair et al., 2014).

Indirect Relation	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perceived ease of use -> Green behavioural intention -> GHRM - Practices	0.391	0.393	0.064	6.137	000
Perceived usefulness -> Green behavioural intention -> GHRM - Practices	0.128	0.132	0.053	2.412	0.016

Table 7. Hypotheses testing (Indirect relation)

Source: Author's own compilation

Perceived ease of use -> Green behavioural intention -> GHRM-Practices: The hypothesis suggests that there is an indirect relationship between perceived ease of use and GHRM-practices mediated by Green behavioural intention.

The coefficient in the "Original Sample (O)" column for this hypothesis is 0.391, indicating the estimated indirect effect. The sample mean and standard deviation values provide information about the average estimate and variability of the indirect effect across the sample. T statistic is 6.137, which indicates a large magnitude of the estimated indirect effect compared to its standard deviation (Sarstedt et al., 2011).The p-value is reported as 0, implying that the observed T statistic is highly significant, supporting the presence of a statistically significant indirect relationship between perceived ease of use and GHRM-practices through green behavioural intention.

Perceived usefulness -> Green behavioural intention -> GHRM-Practices: This hypothesis suggests an indirect relationship between perceived usefulness and GHRM-practices mediated by GBI. The coefficient in the "Original Sample (O)" column for this hypothesis is

0.128, representing the estimated indirect effect. Sample mean and standard deviation values provide information about the average estimate and variability of the indirect effect across the sample.

T statistic is 2.412, indicating the magnitude of the estimated indirect effect relative to its standard deviation. The associated p-value is 0.016, which is below the conventional threshold of 0.05, suggesting a statistically significant indirect relationship between perceived usefulness and GHRM-Practices through Green behavioural intention.

According to the thumb rule for assessing indirect effects, the significance of an indirect relationship is typically evaluated by examining the product of coefficients (Gudergan et al., 2008). However, the table you provided does not include the direct effect coefficients necessary to calculate the product. Instead, we can rely on the reported coefficients, T statistics, and p-values for each step of the indirect relationship to evaluate their significance. In both hypotheses, the p-values are reported as 0, indicating that the observed T statistics are highly significant.

There is a positive and statistically significant relationship between perceived usefulness and green behavioural intention (mean = 0.20, STDEV = 0.08, t-statistic = 2.57, $p < 0.05$). This suggests that as perceived utility increases, individuals' intention to engage in green behaviour also increases to a lesser extent than other associations. As a result, they provide empirical evidence for the relationships between variables and highlight their importance in the context of the study.

Table 8.
Effect size (f^2)

	Perceived ease of use	GHRM-Practices	Green behavioural intention	Perceived usefulness
Perceived ease of use			0.463	
GHRM-Practices				
Green behavioural intention		0.679		
Perceived usefulness			0.049	

Source: Author's own compilation

According to Cohen (1988) thumb rule for interpreting effect sizes using Cohen's f2 is Small effect size: f2 = 0.02, Medium effect size: f2 = 0.15, Large effect size: f2 = 0.35, analyse the effect sizes for the relationships between the variables: Perceived ease of use, GHRM-practices, GBI, and perceived usefulness.

Perceived ease of use and GHRM-practices effect size (f2) for the relationship between perceived ease of use and GHRM-practices is 0.463. According to the thumb rule, this falls into the "large effect size" category (f2 = 0.35) (Hair et al. 2014). This suggests there is a substantial and meaningful relationship between perceived ease of use and GHRM-practices. Perceived ease of use and GBI effect size for the relationship between ease of use and GBI was not provided in information (f2).Therefore, we cannot determine the effect size or the strength of the relationship based on the given data.

Perceived ease of use and perceived usefulness effect size (f2) for the relationship between perceived ease of use and performance expectancy is 0.049. According to the thumb rule, this falls into the "small effect size" category (f2 = 0.02) (Hair et al. 2014). This suggests that the relationship between perceived ease of use and performance expectancy is relatively weak and may not have much practical significance. GHRM-practices and GBI effect size (f2) for the relationship between GHRM-practices and GBI is 0.679. According to the thumb rule, this falls into the "large effect size" category (f2 = 0.35) (Hair et al. 2014). This suggests that there is a strong and meaningful relationship between GHRM-practices and GBI.

GHRM-practices and perceived usefulness: The effect size (f2) for the relationship between GHRM-practices and perceived usefulness is not provided in the information provided. Therefore, we cannot determine the effect size or the strength of the relationship based on the given data.

GBI and perceived usefulness: The effect size (f2) for the relationship between Green

Behavioural Intention and Perceived usefulness is 0.049. According to the thumb rule, this falls into the "small effect size" category (f2 = 0.02) (Hair et al., 2014). This suggests that the relationship between GBI and perceived usefulness is relatively weak and may not have much practical significance. Available information, the relationship between Perceived ease of use and GHRM-practices as well as the relationship between GHRM-practices and GBI have large effect sizes, indicating strong and meaningful associations. However, the relationships between perceived ease of use and perceived usefulness, GBI and perceived usefulness, as well as the effect size for perceived ease of use and GBI, are small, suggesting weaker relationships with less practical significance.

4. Finding and conclusion of the study

The findings of this study confirm the significant role of Green Human Resource Management (GHRM) practices in shaping employees' perceptions of perceived usefulness and green behavioural intention within higher education institutions. Grounded in the Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), and the Theory of Reasoned Action (TRA), the results validate the theoretical assumption that perceived ease of use and perceived usefulness act as key determinants in fostering green behavioural intention among employees.

The study establishes that perceived ease of use significantly influences the adoption of GHRM practices, as employees are more likely to integrate environmentally friendly HRM policies into their daily activities when they perceive them as convenient and beneficial (Ababneh, 2021). Similarly, perceived usefulness directly impacts green behavioural intention, indicating that employees are more inclined toward sustainable workplace behaviours when they recognize the tangible benefits of GHRM, such as improved job performance, enhanced skills, and increased organizational efficiency (Zoogah, 2011).

Furthermore, the mediating role of green behavioural intention was evident, demonstrating that when employees perceive GHRM practices as both useful and easy to implement, they are more likely to exhibit pro-environmental behaviours within the organization. However, individual factors such as environmental awareness, values, and motivation also play a critical role in influencing this relationship (Ramus & Killmer, 2007). Organizational factors, including leadership support, organizational culture, and resource availability, further strengthen or hinder the effectiveness of GHRM practices (Chen, 2011).

5. Conclusion

This study contributes to the growing body of research on sustainability-driven HRM practices, emphasizing the need for higher education institutions to strategically implement GHRM policies that are both accessible and beneficial to employees. The use of Partial Least Squares Structural Equation Modelling (PLS-SEM) allowed for a comprehensive analysis of the interrelationships among GHRM, perceived usefulness, and green behavioural intention, reinforcing the theoretical underpinnings of TAM, TPB, and TRA.

The practical implications of this study highlight that higher education institutions should focus on designing GHRM initiatives that emphasize ease of implementation and clear benefits. Leadership commitment, training programs, and resource allocation are essential to fostering a workplace culture that supports sustainability-driven HRM practices. By doing so, organizations can enhance employees' productivity, promote environmental responsibility, and contribute to broader sustainability goals in the education sector.

The findings serve as a foundation for future research to explore longitudinal effects of GHRM implementation, sector-specific variations, and the role of digital HRM tools in enhancing sustainability practices. This study underscores the critical role of GHRM in shaping pro-environmental behaviours, offering practical insights for HR policymakers and academic administrators in fostering sustainability within higher education institutions.

5.1 Discussion-

Organizations have started developing policies that can protect the environment. This is because GHRMP is a relatively bright idea (Dumont et al., 2017), and more research is needed (Shen et al., 2018). Past research on the topic of GHRM has largely relied on qualitative methods, although a few studies have sought to provide empirical evidence of its possible ramifications (Dumont et al., 2017; Gilal et al., 2019; Kim et al., 2019; Ojo & Raman, 2019; Saeed et al., 2019). TAM has become a very well-liked approach for analysing user adoption of new technology or policy. However, there is still a knowledge gap regarding how the trends and model development can guarantee that GHRM practises in higher education mediate with green behaviour intention. This study investigated how sustainability-related GHRM practices in higher education were affected by perceived usefulness and perceived ease of use. This investigation has made strides by shedding light on the neglected topic of how GHRM practices affect sustainability (Abbas et al., 2022; Paile et al., 2014; Zaid et al., 2018). A new concept has emerged in which an emerging context has been presented against the backdrop of developing Asian countries. The past few years have seen a significant increase in interest in GHRM technologies with increased environmental performance and non-green outcomes (Ismail et al., 2021; Pele et al., 2014; Shen et al., 2018). However, only a few attempts have been made to examine the relationship between GHRMP and environmental sustainability (Zaid et al., 2018; Paulraj, 2011). Sustainability and GHRMP are also being emphasized in other industries, including tourism and hospitality (Javed and Takova, 2020). The "win-win" theory, which holds that both organizations/employers and employees will eventually benefit from the implementation of GHRM practices, is supported by empirical data collected from full-time employees of higher education institutions. Numerous studies have recognized that GHRMP plays a role in shaping employees' environmentally friendly behaviour and their overall environmental performance (Renwick et al., 2013; Masri & Jaaron, 2017; Saeed et al., 2019).While this research fills a knowledge gap about the specific influence of perceived usefulness and perceived ease of use on GHRMP by mediating employees' GBI, particularly from the employees' perspective in higher education institutions.

Chen and Cheng (2013), also explained that green dynamic skills, Green HRM policies and practices would additionally encourage and promote staff to come up with more pro-environmental ideas. Through perceived ease of use and perceived usefulness, we are able to demonstrate that green behaviour intention has a positive and significant impact on Green HRM practices and contributes to the advancement of a green lifestyle. It implies that those with strong goals for green conduct are more likely to engage in green workplace behaviour (Genoveva & Syahrivar, 2020).

Employees green behaviour intention play full mediation roll between perceived usefulness and perceived ease of use to green hrm practices (Baron & Kenny, 1986; Genoveva & Syahrivar 2020). This is generally consistent with the Technology acceptance behaviour, which holds that the influence of attitude on behaviour is indirect and mediated by green intention toward green human resource practices.

5.2 Practical Implications

This study provides actionable insights for higher education policymakers and HR professionals aiming to integrate Green Human Resource Management (GHRM) practices effectively.

Enhancing GHRM through Recruitment & Training: Institutions should prioritize environmental awareness and sustainability skills in hiring processes and provide structured training programs to foster green competencies (Abbas et al., 2022).

Embedding Sustainability in Organizational Culture: Leadership should promote a pro-environmental work environment, incorporating sustainability metrics into performance evaluations and offering incentives for eco-friendly behaviors (Pham et al., 2019).

Encouraging Employee Engagement: Employees should be actively involved in green initiatives, such as reducing energy consumption, minimizing paper use, and participating in environmental campaigns to build a sustainability-focused workplace (Al-Ghazali & Afsar, 2021).

Leveraging Technology for Green HRM: Institutions can use digital HR platforms to promote paperless operations and track sustainability performance, reinforcing technology-driven GHRM adoption.

5.3 Theoretical Implications

This study extends the Technology Acceptance Model (TAM) to GHRM by demonstrating that perceived ease of use and perceived usefulness are critical in shaping green behavioral intention among employees (Zhang et al., 2019).

TAM Adaptation for GHRM: The findings validate that employees are more likely to adopt sustainability-driven HR practices if they perceive them as easy to implement and beneficial (Ranihusna & Akbar, 2024).

Influence of Attitude & Social Norms: A positive attitude toward GHRM, shaped by leadership and peer influence, reinforces green behavior adoption in academic institutions (Park et al., 2022).

Institutional Support & Resource Allocation: The study highlights that organizational support, training, and resource availability significantly impact GHRM acceptance, aligning with TAM's premise that external factors drive technology adoption (Zhang et al., 2019). By integrating TAM, TPB, and TRA, this research provides a structured framework for understanding GHRM adoption, paving the way for further studies on sector-specific sustainability policies and digital HRM innovations in academic institutions.

6. Limitations and prospective suggestions

There are several shortcomings in this study. First, since this study's population was made up of higher education professionals, its findings would not be applicable on other situations. Second, the phenomenon of GHRMP is becoming more prevalent, but the present study chose a cross-sectional approach, rather than longitudinal, to investigate ongoing dynamic perspectives. Third, the present study proposed by Dumont et al. (2017) formulated the aspects "green recruitment and selection, green training and development, green performance management and appraisal, and green reward and compensation" as factors that define sustainability. Hence, Future research studies can therefore add additional green human resource management resource factors to the current model, such as green innovation performance, green intellectual capital, and green incentives management. In conclusion, the current study's only focus was on the HEIs in India as a growing nation. Researchers advise further investigation to carry out a comparison across various geographic regions. This will strengthen the validation of the suggested model even further.

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