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ECSTASIES OF LIFE

By
Dr. Sudha Ulaga Oli

Life and times of Dr. G P C Nayar

Here's an entrepreneur
who has created
some excellent academic institutions
in an unfriendly environment.
It is a saga of trials and tribulations
in an extremely readable manner
by a consummate
writer in English.

THUS SPAKE

Well written biography of a great achiever who swam against the current.

Dr. Subramanian Swamy
Professor - Harvard University

This is a biography, which can be read with ease and pleasure. The narration is such that, that it helps us experience many situations as though they are ours. Readability is its forte.

K.L. Mohana Varma
Award winning Novelist

I am amazed at the way the author has treated the subject. I just read it through in one sitting, which I have rarely done in the case of any book, leave alone biography.

Prof. N.C. George
Author and Critic

Copies can be had from the Publication Department, SCMS Group of Educational Institutions, Cochin-683106.

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July - September 2024, Vol. XXI, Issue No. 3

Articles

Chairman's Overview

The Geopolitical Imperative: Reshaping Global Markets and Business Education

The contours of global commerce are being redrawn by various geo-political factors such as power rivalries, regional conflicts, and economic realignments. The Russia-Ukraine war, U.S.-China trade wars, Middle Eastern instability, and the latest India-Pakistan tensions, have collectively disrupted supply chains, fueled inflation, and led to market volatility worldwide.

Global Disruptions, Local Opportunities

Geopolitical tensions have accelerated the reorganization of global trade. The "China+1" strategy and Western sanctions have pushed firms toward nearshoring, with India emerging as a key beneficiary through initiatives like Make in India and Atmanirbhar Bharat. However, challenges persist—rising oil prices, currency volatility, and the economic costs of regional tensions continue to test emerging markets. India's balancing act between Western alliances and ties with Russia underscores the complexity of navigating this new world order.

For businesses, success now hinges on geopolitical risk integration. Companies must build resilient supply chains, diversify markets, and develop contingency plans for scenarios ranging from trade wars to border conflicts. The ability to anticipate and adapt to political shocks has become as crucial as financial acumen.

Redefining Business Education

Management curricula must evolve to meet these challenges. Traditional MBA programs, overly focused on stable-market paradigms, must incorporate geopolitical strategy, ethical leadership in conflict zones, and crisis management. Case studies should examine real-world scenarios—from sanction mechanisms to the business impact of India-Pakistan tensions—while courses on digital diplomacy and sustainable globalization can bridge theory and practice.

Indian business schools have a unique opportunity to lead this transformation. By blending global perspectives with insights from India's strategic positioning, they can cultivate leaders capable of turning volatility into advantage.

The Path Forward

In an era where geopolitics dictates market fortunes, agility and foresight are paramount. For India, the current turbulence presents both risks and the chance to solidify its economic ascendancy. For business education, it's a call to action: to equip future leaders not just with technical skills, but with the strategic vision to navigate an increasingly fractured world. The future belongs to those who can master this complexity—transforming uncertainty into opportunity.

Dr. G. P. C. NAYAR
Chairman, SCMS Group of Educational Institutions.

SCMS Journal of Indian Management

A Quarterly Publication of
SCMS-COCHIN

Editorial

The current issue presents a collection of research articles that address contemporary issues across diverse domains of management. It highlights the interdisciplinary nature of management studies, bridging theory and practice to offer actionable insights for policymakers, leaders, and scholars.

The edition explores the interplay between cultural dimensions and foreign direct investment (FDI) in Asia, revealing how long-term orientation and uncertainty avoidance shape investor decisions. Complementing this macroeconomic perspective, the next study decodes volatility clustering in Indian mutual funds, employing advanced models like GARCH to enhance risk assessment frameworks.

Behavioural finance takes centre stage in an investigation of premium price framing in life insurance, demonstrating how monthly pricing boosts consumer purchase intentions. Similarly, the issue highlights human-centric challenges, such as time pressure among Indian working mothers, where supervisor support emerges as a critical mitigator of turnover intentions.

Sustainability remains a recurring theme in this issue as well. One study examines green transformational leadership, linking it to employee green behaviour through emotional intelligence and training. Another analyzes drivers of sustainable apparel purchases, emphasizing the roles of eco-awareness, past sustainable behaviours and peer influence moderated by price sensitivity.

Corporate governance and operational strategies are also addressed. A Nigerian study ties macroeconomic factors to working capital management. The issue concludes with two organizational studies. One presents research on ethical leadership in the Indian educational sector, demonstrating its ripple effects on workplace spirituality and employee happiness. The other positions employee motivation as a mediator between dispute resolution and job satisfaction.

Collectively, these articles reflect the journal's commitment to rigorous, contextually grounded research. They offer nuanced understandings of global and local dynamics, from boardrooms to supply chains, while advocating for inclusive, sustainable, and empirically informed management practices.

We invite readers to engage with these contributions, which push the boundaries of management scholarship and practice.

Dr. Radha Thevannoor

The Interplay Between Foreign Direct Investment and Cultural Dimensions: Evidence from an Empirical Analysis

Somnath Das
Assistant Professor
Department of Commerce
Belda College
West Bengal, India
E-mail: somnathdas@beldacollege.ac.in

Tarak Nath Sahu
Professor
Department of Business Administration
Vidyasagar University
Midnapore, West Bengal
Email: taraknathsahu1@mail.vidyasagar.ac.in

A b s t r a c t

Foreign direct investment (FDI) is essential to economic development and interconnected with other aspects, including culture. The present study seeks to evaluate the influence of Geert Hofstede's six cultural dimensions (power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence) on foreign direct investment inflows in seventeen Asian countries. Multiple regression analysis has been applied to secondary data regarding cultural dimensions and FDI inflow to extrapolate the findings. The results reveal that the attributes of uncertainty avoidance and long-term orientation significantly influence FDI inflow. Long-term orientation and uncertainty avoidance traits of a country significantly impact investors' investment decisions; investors want to put their money in places where people are willing to take risks and change with the situation.

Keywords: *Culture, Dimensions, Long Term Orientation, Uncertainty Avoidance, Foreign Direct Investment, Masculinity*

1. Introduction

From antiquity, capital and commodities were exchanged across diverse nations via the 'Silk Road' and 'the Indian Ocean.' During the colonial period, 'the Dutch East India Company' and 'the British East India Company' allocated their wealth to other nations. British and American enterprises extended their investments in other nations during the Industrial Revolution. Foreign Direct Investment inflows were sluggish across several nations throughout the 'pre-World War II era' and following 'World War I.' Following 'World War II,' foreign direct investment (FDI) inflows across nations surged, driven mainly by American corporations investing in the European economy. Various multinational corporations significantly augment their investment capabilities across different countries through FDI in a globalized context. (Alam & Zubayer, 2010). It is a "long-term commitment to a business endeavor" (UNCTAD 1998, p. 90), which is a growing trend that is reflected in the statistical data provided by the IMF Report (in 1970, total worldwide FDI inflow was 10.18 billion U.S. dollars, and in 2018 it was attained at 1195 billion U.S. dollars). Notably, it emphasizes bringing about the overall economic strength of host and home countries by contributing capital, technological support, and foreign exchange and enhancing fair competition among business firms (Crespo & Fontura, 2007). It is possible to create linkage among various economies through the transmission of resources that help to create employment opportunities among nations (Ho & Rashid, 2011). Empirical research by various authors investigates the fact that the inflow of FDI plays a crucial role in the development of the economy (Adhikar, 2011). The inflow of FDI differs from country to country due to their various objectives. Athukorala (2003) describes that the objective of a few companies is to investigate the broad domestic market (FDI looks for the market), and very few of them find out the source of raw materials (FDI looks for resources).

On the other hand, particular companies want to carry out their plans to reduce production costs and connect with the global market (FDI looks for efficiency). Hence, the various needs of a company influence the FDI inflow. The amount of FDI inflow depends on various elements like changes in the labor market, better infrastructure, the profoundness of the financial market, judicial independence, quality of education, etc. (Walsh & Yu, 2010). In a separate study, Singh and Jun (1995) argue that FDI has been influenced by the strength of exports, efficiency of labor management, political stability of the nation, infrastructural variations,

etc. Bhardwaj et al. (2007) reveal in their study that foreign direct investors prefer lower potentiality of uncertainty avoidance but the remarkable trust of the host country. As per Greet Hofstede, national cultures are divided into six segments, namely, Power Distance (PD), Individualism (IND), Masculinity (MAS), Uncertainty Avoidance (UA), Long-Term Orientation (LTO), and Indulgence (INDU). Foreign direct investment should be affected by these changes. This study examines the impact of these six cultural dimensions on Asian countries' foreign direct investment and determines which dimension/s is more important for long-term FDI inflows.

2. Literature Review and Hypotheses Development

Foreign direct investment has various advantages for boosting the economy. In their study, Agosin and Mayer (2000) disclose that it strengthens the country's capital. They are using the regression method on the relevant data of thirty-two developing nations of Latin America, Asia, and Africa from 1997 to 1999 for their study. It may affect the economy of the home country as well as the host country. Alfaro et al. (2001) argue that the home country's economy is more affected by FDI. They use the panel data analysis method to analyze the relevant data. The impact of FDI on the nation's economic growth is also present. Hermes and Lensink (2000) noted this in their study on sixty-seven less developed countries from 1970 to 1995 using the OLS method. Zhang (2001) advocates the positive impact of FDI on the economic development of South American and East Asian countries by using the co-integration technique from 1970 to 1995.

Some literature highlights the impact of FDI on developing countries' associations (i.e., ASEAN, OECD, BIMSTEC, etc.). Few of them disclose the mixed impact of FDI on countries' economic development. Bende et al. (2000) disclose mixed results in their study, which was conducted using the least square method from 1970 to 1994 on ASEAN nations. They noted that three countries present positive associations between FDI and economic development, but others are not positively associated. In 1998, Borensztein and colleagues disclosed the non-negative impact of FDI outflow on the economy of OECD countries. They apply the Seemingly Unrelated Regression (SUR) method from 1970 to 1979 for this study. 2013 Gola et al. also studied the relationship between GDP and FDI in BRICS nations from 1989 to 2012 by applying causality and co-integration analysis at the panel level data. He observed that the GDP of said nations influences FDI positively and significantly.

This section of the literature discusses the effect of various environmental elements on FDI. In the study of Goldberg and Klein (1998), the gravity model is used to evaluate the impact of the actual exchange rate, individual wealth, countries' development, capital abundance, labor abundance, etc., on FDI. Results reveal that the exchange rate has a positive and significant impact, but other variables substantially impact FDI. Egger and Pfaffermayr (2004) argue that countries' high growth rates attract FDI. In 1997, Huallachain and Reid disclosed in their study that economic development has a non-positive impact on FDI outflow and a non-negative effect on FDI inflow.

Market size is vital to determining the FDI (Rodrik, 2000). A country's taxation policy and procedure are the influential elements for FDI inflow (Ekholm et al., 2007; Blonigen et al., 2004). However, Di Giovanni (2005) noticed a volatile relationship between tax and FDI inflow. The risk factors also bound it; Razin and Sadka, in 2007, investigated the political and financial risks associated with FDI inflows. They use investment return and political conflict cost as financial and political risks. Carr et al. (2001) also note a significant association among these in their study. FDI is associated with various factors, but the causes of FDI flow are reflected by the study of Ul-Haque et al. (1997). They observe that the effectiveness of capital investment, the interest rate in the international market, and the demand for money play a vital role in the circulation of FDI among nations. In 1997, Taylor and Sarno conducted a study using a co-integration test and error-correction model on relevant data from Latin America and Asia. They argue that the interest rate specified by the host country is an important element for FDI inflow. The inflation rate, currency exchange rate, and economic performance measurement index are the determinants of this in Asian countries (Agarwal, 1997). In 2008, Vita & Kyaw used a vector autoregressive model (VAR) on the relevant data of five developing nations and revealed that domestic productive efficiency stimulates the inflow of FDI.

Srinivasan and Kalaivani (2015) also observe that the productive efficiency of India influences the FDI inflow by using the ARDL model in their study, but Rai and Bhanumurthy (2004) and Gordon and Gupta (2003) argue that the strength of the stock market influences the FDI inflow of India. In the study of Verma and Prakash (2011), sensitive determinants are considered: interest rates, commercial borrowings, and investments of non-resident Indians, and they use the Granger causality test to identify the results. The region's currency and trade agreements affect FDI inflows (Petroulas, 2010). In 2003, Gordon and Gupta found that lower foreign interest rates positively influence India's FDI inflow. However, in their study, Garg and Dua (2014) reflect the negative association between the Morgan Stanley Capital International index and FDI inflow. Factors that affect FDI inflow are segmented into two parts in the study of Ahortor and Olopoenia (2010), i.e., domestic and global factors. They use a stochastic model and identify mixed effects of these on FDI inflow.

In 2012, Jadhav conducted a study on secondary data from 2000 to 2009 in BRICS countries to identify the impact of various economic elements and governance on FDI inflow. Out of all elements, market size plays a vital role in enhancing FDI inflow. According to Laskar (2015), the length of a country's market affects FDI positively and considerably, whereas the geographical proximity between the host and home countries hurts FDI flow.

Literature discloses the various areas relating to the impact of FDI flow on the economic development and growth of the nation, as well as reveals the impact of various macroeconomic variables like exchange rate, individual wealth, labor, market size, taxation policy, inflation rate, etc., on the inflow of FDI. Existing studies also disclose the effectiveness of FDI inflow in strengthening a country's capital structure. As several factors have stimulated FDI inflow, it is expected that culture as an element impacts FDI inflow. However, the literature on cultural attributes' association with FDI inflow is minimal. The present study seeks to establish this relationship with Asian nations. Expected that this will add to the value of present literature in this field.

Hofstede identifies six cultural dimensions: power distance, individualism, uncertainty avoidance, masculinity, long-term orientation, and indulgence. The power gap arises from the unequal distribution of money and authority (Hofstede & Hofstede, 2005). This may stem from corruption or other malpractices that reduce the inflow of foreign direct investment (Ndebbio, 2004). In 2004, Groot et al. similarly contended this in their research. These considerations contribute to formulating the subsequent alternative hypothesis.

Hypothesis 1 (H$_1$): *There is an association between power distance and FDI inflow in Asian Nations.*

International trade is interconnected with individual views such as 'us vs them' (Oyserman et al., 2002). Therefore, the 'us' mentality is more suitable for company development than the 'them' mentality (Parsons & Shils, 1951). In 2009, Kitayama et al. showed in their research that foreign direct investment inflow is favorably correlated with individualistic culture. Beugelsdijk and Frijns (2010) contend in their research that a nation's individualism affects investment, especially foreign direct investment inflow. From this literature, the subsequent alternative hypothesis can be articulated.

Hypothesis 2 (H₂): Individualism is associated with FDI inflow in Asian Nations.

Uncertainty avoidance denotes a diminished risk tolerance ability, limiting business investment opportunities. Kandogan (2015) notes the adverse correlation between uncertainty avoidance and FDI inflow. Individuals in the uncertainty avoidance category exhibit diminished interest in participating in international trade and commerce (Inglehart et al., 1997). The certainty stance holds excellent value among these demographics (Hofstede, 2005). Individuals with a high aversion to uncertainty seek to preserve the current business and present goods. They are unwilling to engage in any demanding situations or new ventures. In instances of low uncertainty avoidance, an individual exhibits a reversal character (Ozgen, 2012). An alternate hypothesis can be established based on this reasoning.

Hypothesis 3 (H₃): There is an association between Uncertainty Avoidance and FDI inflow of Asian Nations.

Like other cultural dimensions, masculinity possesses a distinct characteristic (Hofstede, 2011), shown via material success and competitiveness (Ferraro, 2002). Individuals' competitive dispositions emphasize the expansion and advancement of companies (Dunlap et al., 1993). Individuals within this category exhibit materialism and prioritize the temporal worth of currency (Goraieb et al., 2019). They also demonstrate the impact of masculine culture on foreign direct investment inflow. These arguments result in the representation of the alternative hypothesis as follows.

Hypothesis 4 (H₄): Masculinity and FDI inflow of Asian Nations are related.

The current actions of many individuals are influenced by their previous behaviors, reflecting a long-term orientation within the cultural dimension (Hofstede, 1993). Individuals

with a long-term orientation typically engage in tasks within established routines, remaining within their limits (Park & Lemaire, 2011). It mitigates the obstacles confronting capabilities adversely affecting new business and foreign direct investment inflow. In 2013, Peng and Beamish revealed the affirmative correlation between long-term orientation and the degree of sole proprietorship ownership in business. In their research, Handrito et al. (2023) demonstrate that long-term orientation correlates with SMEs. Cabarcos et al. (2021) reveal a negative correlation between long-term orientation and FDI influx. Consequently, these dimensions underscore the subsequent alternative hypothesis.

Hypothesis 5 (H₅): There is an association between Long-Term Orientation and FDI inflow of Asian Nations.

Individuals from some nations prefer enjoyment and leisure, referred to as the indulgence dimension. This emphasizes a nation characterized by unrestrained pleasure and a populace that revels in enjoyment (Hofstede, 1993). This dimension disregards the discipline of life, which is detrimental to corporate growth. Lzadi et al. (2023) reveal the correlation between indulgence and foreign direct investment inflow. Steigner et al. (2019) ascertain in their investigation that foreign direct investment inflow and indulgence exhibit a negative correlation. These reasons support the formulation of the subsequent alternative hypothesis.

Hypothesis 6 (H₆): Indulgence and FDI inflow of Asian Nations are associated.

3. Data and Methodology

3.1 Data

Sixteen years (2007-2022) of average data regarding FDI of seventeen Asian nations have been collected from the World Bank's official website. Great Hofstede's official website has to be used as the cultural data source for this study.

Hence, the average sixteen-year FDI of seventeen nations was used as the dependent variable. Six cultural dimensions—power Distance (PD), Individualism (IND), Uncertainty Avoidance (UA), Masculinity (MAS), Long-Term Orientation (LOT), and Indulgence (INDUL)—have been considered independent variables.

3.2 Research Methodology

Hence, the Jarque-Bera test has been used to test the normality of the data. The stationarity of the data was tested

using the augmented Dickey-Fuller (ADF) test. The Durbin-Watson test is applied to identify autocorrelation among sample variables. A multiple regression model is to be used to analyze the results of this study. The adequacy of this model has been judged by applying the serial correlation LM test (Breusch-Godfrey test), the Breusch-Pagan-Godfrey test (for heteroscedasticity of residuals), and the normality test of residuals through the JB statistic.

3.2.1 Test of Normality

The Test of Normality Carlos Jarque and Anil K. Bera, i.e., the JB test statistic, test the best fit representing the skewness and kurtosis of sample data matched with a normal distribution.

$$JB = n[s^2/6 + (k-3)^2/24]$$

Where n is the sample size, b_1 represents the coefficient of skewness, and b_2 denotes the coefficient of kurtosis. The Jarque-Bera test has been employed to check the normality of the selected variables.

3.2.2 Test of Stationarity

The stationarity of these data is also checked by applying a non-parametric ADF test statistic as follows:

$$\Delta Y_t = \alpha + \delta Y_{t-1} + \sum_{i=1}^{m} \gamma_i \Delta Y_{t-i} + e_t$$

The augmented Dickey-Fuller (ADF) test has been employed to examine the stationarity of the selected variables.

3.2.3 Test of Autocorrelation

The Durbin-Watson (DW) Test is applied to measure the autocorrelation by using the following formula:

$$DW = \frac{\sum_{t=2}^{n} e_t^2 + \sum_{t=2}^{n} e_{t-1}^2 - 2\sum_{t=2}^{n} e_t e_{t-1}}{\sum_{t=1}^{n} e_t^2}$$

Where $_{it}$ denotes residual, t indicates period, and n is the sample size.

Multiple regression analysis has been used to determine the impact of the cultural dimensions on foreign direct investment.

$$FDI = \beta_0 + \beta_1 PD + \beta_2 IND + \beta_3 UA + \beta_4 MAS + \beta_5 LTO + \beta_6 INDUL + e$$

$$\left[Here, FDI = \frac{\sum_1^{16} fdi}{16} \right]$$

Hence, the normality of the data has been maintained by considering the natural log and first difference. FDI, PD, IND, UA, MAS, LTO, and INDUL represent the value after taking the log and first difference of FDI Power Distance,

Individualism, Uncertainty Avoidance, Masculinity, and Indulgence, respectively.

4. Data Analysis and Findings

Log values have been taken to convert all data into a similar form. JB test statistics have been applied to data to test normality, but the result shows that out of seven variables, two are non-normal. The first differences have been taken to eliminate the non-normality of data. This helps convert non-normal data into standard form.

Table 1. Results of the Normality Test

Variables	Jarque Bera Test Statistics	Probability
FDI	0.549767	0.759660
PD	0.110032	0.946470
IND	0.780381	0.676928
UA	9.278894	0.096630
MAS	5.585042	0.061267
LTO	0.495930	0.780387
INDULGE	1.191450	0.551163

Source: Authors' Calculation

Due to the insignificant p-value at the 5% level, the null hypothesis is accepted. Hence, normally distributed data has to be taken into consideration.

Hence, the multiple regression analysis has been run on seven customarily distributed variables. The result of the stationarity test is depicted in Table No. 2. It has been found that the t-statistics of sample variables in level form are significant at the 5% level. The probabilities are lower than five percent, meaning that acceptance of the alternative hypothesis or the data is stationary, i.e., the data has no problem regarding unit root.

Table 2. Unit Root Test's Result

Variable	ADF Test Level t-statistic	Probability
FDI	-3.709380	0.0150
PD	-4.623422	0.0119
IND	-3.927003	0.0432
UA	-5.416101	0.0039
MAS	-8.178696	0.000
LTO	-6.430807	0.0005
INDUL	-3.396054	0.0428

The descriptive statistics presented in Table 3 show that the covariance of indulgence is very high (24.8479) among sample variables. This discloses that this dimension's fluctuation among sample countries is not stable. Regarding fluctuation, the Power Distance dimension is stable due to lower covariance (3.9815). This signifies that this dimension is more consistent among all sample variables.

Further, the regression analysis result in Table 4 shows that FDI is negatively associated with the UA dimension (-0.605287), and LTO has a positive (0.353334) association at a 5 percent significant level. That implies that 1-unit changes in uncertainty avoidance influence a 0.61-unit negative effect on FDI. It indicates that the flow of FDI faces the barrier of the UA dimension because many people want to avoid uncertainty. Similarly, a 0.35-unit positive change has occurred due to one unit change in LTO.

Here, the value of the Durbin-Watson statistic (1.769072) is 1.5 to 2.5. So, the data used in the model are free from autocorrelation. The regression model is also well fitted, as the R-squared value 82.61 is statistically significant at a 1 percent level. F-statistics also reflect that these dimensions have a combined effect on the FDI of Asian nations, which is statistically significant. It is also said that six independent cultural dimensions can explain 82.61 percent of the deviation of the dependent variable (Cameron & Windmeijer, 1997), i.e., the FDI of Asian Nations. The value of R-squared is less than the DW test statistics, representing that this model is not spurious (Granger & Newbold, 1974).

Table 3. Descriptive Statistics

Parameters	FDI	PD	IND	UA	MAS	LTO	INDUL
Mean	9.404523	1.885442	1.457181	1.624844	1.650592	1.483966	1.355385
Median	9.429497	1.892095	1.477121	1.653213	1.653213	1.612784	1.414973
Maximum	11.19133	2.000000	1.716003	1.819544	1.977724	1.939519	1.755875
Minimum	7.248816	1.740363	1.146128	1.000000	0.903090	1.000000	0.698970
Std. Dev.	1.048700	0.075069	0.164325	0.180243	0.247894	0.348605	0.336786
Covariance	11.15101	3.9815	11.2769	11.0926	15.0184	23.4914	24.8479

Source: Authors' Calculation

Table 4. Result of Regression Model

Variable	Coefficient	t-Statistic	Prob.
C	2.419565	0.568368	0.5823
PD	-0.475494	-0.243062	0.8129
IND	0.472531	0.466627	0.6508
UA	-0.605287	-0.6589341	0.0111*
MAS	0.290417	0.498462	0.6289
LTO	0.353334	0.7031886	0.0009**
INDUL	0.452226	0.839704	0.4207
R-squared	0.826147		
Adjusted R-squared	0.721836		
F-statistic	7.9199999		
Prob (F-statistic)	0.002441**		
Durbin-Watson stat	1.769072		

**Significant at 1 percent level, *Significant at 5 percent level
Source: Authors' Calculation

Table 5. Diagnostic Tests Results

Serial Correlation (A)	Normality (B)	Heteroscedasticity (C)
0.446813	0.772244	3.451856
(0.7998)	(0.679687)	(0.7504)

Source: Authors' Calculation

Different diagnostic tests have been reported in Table 5. Here, the Breusch-Godfrey serial correlation test is used to measure the serial correlation of residuals. The probability value of the Chi-square statistic (Obs R-square) is insignificant at the 5% level, which signifies that the residuals are not serially correlated. Further, the heteroscedasticity of residuals is measured through the Breusch-Pagan-Godfrey test.

The residuals are free from heteroscedasticity due to an insignificant chi-square statistic. Similarly, the Jarque-Bera test suggests that model residuals are normal. Hence, the result of the digenetic tests ensures that the model is acceptable and the robustness of the results obtained from the regression analysis.

5. Results and Discussion

Cultural dimensions are associated with economic activities like FDI inflow (Adkisson, 2014). The results of the present study disclose the association between FDI inflow and six cultural dimensions. However, the numerical value of all these associations is not significant. Only long-term orientation and uncertainty avoidance dimensions are significantly related to FDI inflow. The study discloses that the individualism dimension is positive, and uncertainty avoidance is negatively associated with FDI inflow. Kandogan (2016) also notes these results in his study. Power distance is negatively related to FDI inflow. Masculinity, indulgence, and long-term orientation are positively associated with FDI inflow (Steigner, 2019). The current study also supports this evidence. In 2010, Beugelsdijk and Frijns also disclosed the same result in their study: UA negatively influences the FDI inflow, whereas individualism is positively related.\

6. Conclusion and Policy Recommendations

This study endeavors to understand the association between FDI and the six cultural dimensions of Greet Hofstede. It demonstrates that the UA and LTO dimensions impact the FDI inflow of Asian countries.

These two dimensions have a significant contribution to the enhancement of FDI inflow. The lower potency of the UA dimension is the most important factor in the growth of FDI inflow. It positively affects FDI inflow (Bhardwaj et al., 2007). By examining this issue, we have discovered one important reason why a lower degree of this dimension positively impacts the FDI. The cause is that the members of this group are brave, quickly adapt to new situations, and are accustomed to taking risks. This nature of human beings strongly invites FDI (Goraieb et al., 2019). Another important dimension is LTO, which positively influences the inflow of FDI.

This may be because the persons of this dimension are futuristic, determined, faithful, and able to adjust to any situation by maintaining the link to previous activity. As the FDI inflow highly depends on the UA and LTO dimensions of the country's people, the investors will prefer to invest their funds in countries where individuals are willing to take risks and adjust to the changing situation. Lower uncertainty avoidance enhances the flow of FDI, so it should be advisable that policymakers of FDI follow the nations where the degree of UA is lower. As well as they should follow those countries where LTO is higher. For economic enrichment of the nations by FDI inflow to be possible, individuals must be capable of taking risks and maintaining a long-term orientation cultural dimension.

However, future studies in this area will cover more nations and variations of the cultural scores over time to generalize the result.

References

Adhikary, B. K. (2011). FDI, trade openness, capital formation, and economic growth in Bangladesh: A linkage analysis. *International Journal of Business and Management*, Vol. 6 No.1, pp.16-28.

Adkisson, R. V. (2014). Quantifying culture: problems and promises. *Journal of Economic Issues*, *48*(1), 89–108.

Agarwal, R. N. (1997). Foreign portfolio investment in some developing countries: A study of determinants and macroeconomic impact. *Indian Economic Review*, Vol. 32 No. 2, pp. 217–229.

Agosin, M. and Mayer, R. (2000). Foreign Investment in Developing Countries Does it Crowd in Domestic Investment? *Discussion Paper, United Nations Conference on Trade and Development,* No 146.

Ahortor, C. R. K. and Olopoenia, R. A. (2010). Determinants of portfolio flows to Ghana: A dynamic stochastic general equilibrium analysis. *Journal of Applied Sciences*, Vol. 10 No.1, pp.1-19.

Alam, M. and Zubayer, M. (2010). Intra-Regional Foreign Direct Investment (FDI) Prospect in South Asian Association of Regional Cooperation (SAARC) Region. *International Journal of Economics and Finance*, Vol. 2 No.3, pp.114-121.

Alfaro, L. Chanda, A. Kalemli-Ozcan, S. and Sayek, S. (2004). FDI and economic growth: the role of local financial markets. *Journal of International Economics,* Vol. *64* No. 1, pp.89-112.

Athukorala, P. (2003). The Impact of Foreign Direct Investment for Economic Growth: A Case Study in Sri Lanka. *9th International Conference on Sri Lanka Studies*, Paper No. 092.

Bende-Nabende, J. L. Ford, Sen, S. and Slater, J. FDI locational determinants and the linkage between FDI and other macro-economic factor long-run dynamics in Pacific Asia. Discussion Paper No. 2000.

Beugelsdijk, S., and B. Frijns. 2010. A Cultural Explanation of the Foreign Bias in International Asset Allocation. *Journal of Banking & Finance* 34: 2121–2131. doi: 10.1016/j.jbankfin.2010.01.020.

Bhardwaj, A. Dietz, J. and Beamish, P. W. (2007). Host country cultural influences on foreign direct investment. *Management International Review*, Vol. 47, pp.29-50.

Blonigen, B. A. and Davies, R. B. (2004). The effects of bilateral tax treaties on U.S. FDI activity. *International Tax and Public Finance,* Vol. 11, pp. 601-622.

Borensztein, E. Gregorio, J. and Lee, J. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, Vol. 45, pp.115–135.

Cameron, C. A. and Windmeijer, G. A. F. (1997). An R-squared measure of goodness of fit for some common nonlinear regression models. *Journal of Econometrics*, Vol. 77 No.2, pp. 329-342.

Carr, D. L. Markusen, James, R. and Maskus, K. E. (2001). Estimating the knowledge capital model of the multinational enterprise. *American Economic Review*, Vol. 91 No. 3, pp. 693-708.

Crespo, N. and Fontoura, M.P. (2007). Determinant factors of FDI spillovers – what do we know? *World Development*, Vol. 35 No. 3, pp. 410-425.

DiGiovanni, J. (2005). What drives capital flows? The case of cross-border M&A activity and financial deepening. *Journal of International Economics,* Vol. 65, pp. 127 – 149.

Dunlap, R. E. Gallup, G. H. and Gallup, A. M. (1993). International Public Opinion toward the Environment. *Impact Assessment*, Vol.11 No.1, pp.3-25.

Egger and Pfaffermayr (2004). The impact of bilateral investment treaties on foreign direct investment. *Journal of Comparative Economics,* Vol. 32 No.4, pp.788-804.

Ekholm, K. Forslid, R. and Markusen, J. (2007). Export-platform foreign direct investment. *Journal of the European Economic Association*, Vol. 5 No.4, pp.776-795.

Ferraro, G. P. (2002). The cultural dimension of international business. *New Jersey: Prentice Hall.*

Ganger, C.W.J. & Newbold, P. (1974). Spurious regression in econometrics. *Journal of Econometrics*, Vol. 2, pp.111–120.

Garg, R. & Dua, P. (2014). Foreign portfolio investment flows to India: determinants and analysis. *World Development*, Vol. 59, pp.16–28.

Gola, R. K. Dharwal, M. & Agarwal, A. (2013). Role of Foreign Direct Investment in the Development of Indian Economy. *GYANPRATHA – ACCMAN Journal of Management*, Vol. 5 No.1.

Goldberg, L. and Klein, M. (1998). Foreign Direct Investment, Trade and Real Exchange Rate Linkages in Developing Countries. Managing Capital Flows and Exchange Rates: Perspectives from the Pacific Basin, *Cambridge University Press,* pp.73-100.

Goraieb, R. M. Verdu, C.F. and Reinert, M. (2019). Cultural influences on foreign direct investment. *Revista Eletrônica de Negócios Internacionais: Internex*, Vol.14 No.2, pp.128-144.

Gordon, J. P. & Gupta, P. (2003). Portfolio flows into India: Do domestic fundamentals matter? *International Monetary Fund, IMF Working Paper*, No. 03/20.

Groot, H. L. F. D. Linders, J. G. Rietveld, P. and Subramanian, U. (2004). The institutional determinants of bilateral trade patterns. *Kyklos*, Vol. 57 No.1, pp.103-123.

Handrito, R. P., Slabbinck, H., & Vanderstraeten, J. (2023). Are you stuck in short-term, daily operations or not? Unraveling SME's long-term orientation. *Small Business Economics*, 1-23

Hermes, N. and Lensink, R. (2000). Financial system development in transition economies. *Journal of Banking and Finance*, Vol. 24 No.4, pp. 507–524.

Ho, C. S. & Rashid, H. A. (2011). Macroeconomic and country-specific determinants of FDI. *The Business Review,* Cambridge, Vol. 18 No.1, pp. 219–226.

Hofstede, G. (1993). Cultural constraints in management theories. Academy of Management Executive, Vol. 7 No.1, pp. 81–94.

Hofstede, G. (2011). Dimensionalising cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, Vol. 2 No.1, pp.1–26.

Hofstede, G. and Hofstede, G.J. (2005). Cultures and organisations: software of the mind. *McGraw-Hill, New York.*

Huallachain, B. O. & Reid, N. (1997). Acquisition versus greenfield investment: The location and growth of Japanese manufacturers in the United States. *Regional Studies*, Vol. 31 No.4, pp. 403–16.

Inglehart, R. F. (1997). Modernisation and Post Modernization: Cultural, Economic and Political Change in 43 Societies. *Princeton University Press, Princeton, NJ.*

Izadi, S., Rashid, M., & Izadi, P. (2023). Direct and indirect influence of national culture on foreign direct investment. *Research in International Business and Finance*, *66*, 102037.

Jadhav, P. (2012). Determinants of foreign direct investment in BRICS economies: Analysis of economic, institutional and political factor. *Procedia-Social and Behavioral Sciences,* Vol. 37, pp.5–14.

Kandogan, Y. (2016). Economic development, cultural differences, and FDI. *Applied Economics*, *48*(17), 1545–1559.

Kitayama, S. Park, H. Sevincer, A. T. Karasawa, M. and Uskul, A. K. (2009). A cultural task analysis of implicit independence: Comparing North America, Western Europe, and East Asia. *Journal of Personality and Social Psychology,* Vol. *97* No. 2, pp.236–255.

Laskar, V. (2015). Determinants of trade and FDI flows in the BRICS countries – Evidences from Gravity model analysis. *Journal of Faculty of Management*, Vol. 9 No. 2, pp.4–7.

Lopez-Cabarcos, M., Piñeiro-Chousa, J., & Quiñoá-Piñeiro, L. (2021). An approach to a country's innovation considering cultural, economic, and social conditions. *Economic research-Ekonomska istraživanja*, *34*(1), 2747-2766.

Ndebbio, J. (2004). Financial deepening, economic growth, and development: evidence from selected sub-Saharan African countries. *Nairobi: AERC*, No. 142,

Oyserman, D. Coon, H. M. and Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, Vol.128 No.1, pp.3–72.

Ozgen, E. (2012). The Effect of the National Culture on Female Entrepreneurial Activities in Emerging Countries: An Application. *International Journal of Entrepreneurship*, Vol.16, pp.69–92.

Park, S. and Lemaire, J. (2011). Culture matters: Long-term orientation and the demand for life insurance. *Asia-Pacific Journal of Risk and Insurance*, Vol. 5 No. 2, pp.1-23.

Parsons, T. & Shils, A. E. (1951). Towards a General Theory of Action. *Harvard University Press, Cambridge.*

Petroulas, P. (2010). The effect of the Euro on foreign direct investment. *Journal of Public Economics*, Vol. 101 No. 2, pp. 68-76.

Rai, K. & Bhanumurthy, N. R. (2004). Determinants of foreign institutional investment in India: the role of return, risk, and inflation. *The Developing Economies*, Vol. 42 No.4, pp.479–493.

Razin, A. and Sadka, E. (2007). Foreign Direct Investment analysis of aggregate flows. *Princeton University Press, Princeton and Oxford.*

Rodrik, D. (2000). Can integration into the world economy substitute for a development strategy? *World Bank's ABCDE Conference June 26-28, Paris*.

Singh, H. & Jun, K. W. (1995). Some New Evidence on Determinants of Foreign Direct Investment in Developing Countries. *World Bank, Washington DC. Working Paper*, No. 1531.

Srinivasan, P. and Kalaivani, M. (2015). Determinants of foreign institutional investments in India: an empirical analysis. *Global Business Review*, Vol. 16 No.3, pp. 364-376.

Steigner, T., Riedy, M. K., & Bauman, A. (2019). Legal family, cultural dimensions, and FDI. *International Journal of Managerial Finance*, *15*(3), 285-314.

Steigner, T., Riedy, M. K., & Bauman, A. (2019). Legal family, cultural dimensions, and FDI. *International Journal of Managerial Finance*, *15*(3), 285-314.

Taylor, M. P. and Sarno, L. (1997). "Capital flows to developing countries: long- and short-term determinants." *The World Bank Economic Review*, Vol. 11 No. 3, pp. 451-470.

Ul-Haque, N. Mathieson, D. and Sharma, S. (1997). Causes of capital inflows and policy responses to them. *Finance & Development*, Vol. 34 No.1, pp.3-6.

Verma, R. and Prakash, A. (2011). Sensitivity of capital flows to interest rate differentials: an empirical assessment for India. *RBI Working Paper Series, Department of Economic Affairs*, No. 7 / 2011.

Vita, D. G. and Kyaw, K. S. (2008). Determinants of capital flows to developing countries: a structural VAR analysis. *Journal of Economic Studies*, Vol 35 No.4, pp.304-322.

Walsh, J. & Yu, J. (2010). Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach. *IMF Working Paper*, No. WP/10/187.

Zhang, P. (2001). An FDI approach for the sampled data system. *Proceeding of American control conference. DOI: 10.1109/ACC.2001.946289.*

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Decoding Market Dynamics: The Enigma of Volatility Clustering and Leverage Effect in Indian Mutual Funds

Mr. Jyoti Ranjan Jena
Faculty of Management Sciences, IBCS,
Siksha 'O' Anusandhan (Deemed to be University)
Bhubaneswar, Odisha, India.
Email: jyotiranjanj622@gmail.com

Dr. Saroj Kanta Biswal
Faculty of Management Sciences, IBCS,
Siksha 'O' Anusandhan (Deemed to be University)
Bhubaneswar, Odisha, India.
Email: sarojkantabiswal@soa.ac.in

Dr. Avinash K Shrivastava
Department of Operations Management &
Quantitative Techniques,
IMI Kolkata, Kolkata, West Bengal, India
Email: kavinash1987@gmail.com

Dr. Rashmi Ranjan Panigrahi
Operations and Supply Chain Area,
Symbiosis Institute of Business Management,
Hyderabad – 509217,
Symbiosis International (Deemed University), Pune, India
Email: rashmipanigrahi090@gmail.com

Abstract

In the realm of financial markets, the study of volatility clustering is imperative for a comprehensive understanding of market behaviour. Understanding and managing volatility is paramount in the realm of mutual funds, where market dynamics can significantly impact investment outcomes. This research explores the complex dynamics of volatility clustering within the Indian mutual fund industry to conduct the analysis; the study utilizes tools such as ARMA, GARCH, and EGARCH models to enhance our understanding and develop robust modelling frameworks, providing a comprehensive understanding of the behaviour of the Indian Mutual funds market. Specifically- Equity, Debt, and Hybrid funds. The data considered for this examination spans from 2018 to 2023. The research reveals pervasive patterns of volatility clustering, indicating that periods of heightened volatility tend to persist over time. Through the application of the GARCH model, we construct a comprehensive model development approach, shedding light on the nuanced nature of mutual fund volatility. However, the EGARCH model indicates no significant impact of leverage effect on equity, debt, and hybrid funds. The implications of these findings extend to risk management strategies, investor communication, regulatory considerations, and the continuous adaptation of investment practices. By unravelling the intricacies of volatility clustering and leverage effect in Indian mutual funds, this research contributes to the refinement of risk assessment methodologies and the development of more resilient investment strategies in dynamic financial environments.

Keywords: *Mutual Funds, Volatility Clustering, Leverage Effect, ARMA, GARCH/E-GARCH models.*

1. Introduction

Financial markets are dynamic and subject to continuous fluctuations in asset prices (Glasserman et al., 2023; Jena et al., 2023; Molina-Muñoz et al., 2025). To make wise financial decisions and manage risks requires an understanding of the ability to predict these fluctuations. Mutual funds have long been a staple of investment portfolios (López Vázquez et al., 2025), catering to a wide range of investors seeking diversification, professional management, and a piece of the financial markets. Equity, debt, and hybrid mutual funds each occupy distinct niches in the investment universe (Sharma, 2025; X. Wang et al., 2024), offering a broad spectrum of risk-return profiles. However, regardless of their nature, all mutual funds are intrinsically exposed to the capriciousness of the financial markets, where volatility clustering holds a significant role.

Volatility clustering has garnered considerable attention due to its empirical ubiquity and its far-reaching consequences for asset pricing, risk management, and investment strategies (Iriabije et al., 2022; Mishra et al., 2025). It is particularly pertinent in the context of mutual funds, where investors try to maximize the value of their investments while navigating the complex and dynamic landscape of financial markets. The performance of funds and risk-adjusted returns are influenced by volatility clustering, which happens when significant price fluctuations are followed by even larger fluctuations (Acharya et al., 2025). Fund managers can create dynamic risk management strategies, optimize asset allocation, and use hedging methods to stabilize returns by identifying this pattern (Varoglu & Varoglu, 2025). Furthermore, fund managers can modify their exposure to market downturns by using the leverage effect, which shows how negative shocks increase future volatility. This helps fund managers and investors understand the asymmetric nature of risk.

Understanding and modelling volatility clustering within the context of mutual funds is pivotal (Acharya et al., 2025). It is not merely an academic exercise but a pragmatic pursuit with far-reaching implications. Fund managers seek accurate tools to estimate the risk associated with their investments (Lewrick & Schanz, 2023), investors plan for a nuanced grasp of the assets they hold, and risk analysts strive to develop comprehensive risk management strategies (Herbert et al., 2019). Understanding volatility patterns can benefit both institutional and individual investors in choosing funds that fit their risk tolerance. High volatility periods could be a sign of high uncertainty, which would

affect capital flows and investors sentiment (Gavrilakis & Floros, 2025). Investors can improve their long-term capital accumulation by making well-informed decisions about entry, exit, and diversification strategies when they are aware of these consequences. In order to maintain market efficiency and financial stability, regulators and policymakers must evaluate the volatility behaviour of mutual funds. Long-term clustering of volatility may indicate systematic problems, necessitating regulatory actions like stress testing, stricter disclosure of requirements,, and better risk control systems (Naseer et al., 2024). The influence of the leverage effect on mutual funds also makes it necessary to keep an eye on margin requirements and leverage limits in order to avoid taking on too much risk (Ibrahim et al., 2024).

This study pursues two primary objectives. First, we seek to empirically determine whether volatility clustering is present across the different mutual fund categories, recognizing that the underlying dynamics of equity, debt, and hybrid assets are distinct and, therefore, necessitate individual scrutiny. Second, we endeavour to develop and validate GARCH models tailored to the specific characteristics of each fund type, enabling precise modelling of the leverage effect. By achieving these objectives, we aim to provide valuable insights for fund managers, investors, and risk analysts, ultimately contributing to more informed investment decisions and enhanced portfolio performance.

The existence of volatility clustering indicates that previous market conditions have a big impact on future fund returns (Z. Wang et al., 2024). Fund managers can use volatility forecasting models to proactively modify their exposure, which makes this information useful for portfolio rebalancing (Ze & Loang, 2024). Furthermore, understanding the impacts of leverage effect helps to build risk-managed portfolios that are resilient to unfavourable market conditions. This research holds significant implications for investors, portfolio managers, and service providers operating in the mutual fund industry. Through the development of customized modelling techniques and a deeper understanding of leverage effects and volatility clustering in Indian mutual funds, this study seeks to empower stakeholders with more accurate risk assessments and improved decision-making capabilities.

2. Literature Review

The following important financial theories serve as the foundation for this study:

According to the Efficient Market Hypothesis (EMH) (Fama, 1965), price movements are random, and asset prices accurately reflect all available information. This study aims to investigate the inefficiencies in the mutual fund market that are indicated by deviations from the EMH, such as volatility clustering. The study highlighted the non-random nature of asset price movements. The presence of volatility clusters suggests that asset returns are not normally distributed and exhibit fat-tailed or heavy-tailed distributions (Trinidad Segovia et al., 2019). Jensen (1972) proposed capital market theory, which describes how investors make decisions based on risk-reward trade-offs. The occurrence of volatility clustering implies that mutual fund returns follow consistent risk patterns, which affects fund selection and risk-adjusted returns. (Elton & Gruber, 1997) developed the Modern Portfolio Theory (MPT), which emphasizes the value of diversity in lowering risk but does not specifically take leverage effects and volatility clustering into account. By being aware of these impacts, fund managers can dynamically modify portfolio allocations to reduce risk. (Christie, 1982) proposed asymmetric volatility and (Black, 1976) was the one who initially proposed the idea of the leverage effect in 1976. He theorized that the use of leverage, such as debt, may increase the effect of negative shocks on equity values. This was a critical insight that laid the foundation for future research on the leverage effect. Leverage Effect The hypothesis suggests that market downturns increase financial leverage, resulting in increased future volatility (McAleer et al., 2007). This can occur in mutual funds when unfavourable market shocks cause more investor redemptions, which increases fund volatility. Volatility clustering is characterized by periods of high volatility (volatility spikes) followed by periods of low volatility (Zhang & Fang, 2021). These clusters are often associated with market events, such as financial crisis, economic shocks, or geopolitical developments. In order to capture time-dependent volatility clustering and asymmetry in mutual fund returns, the study uses Generalized Autoregressive Conditional Heteroskedasticity (GARCH) (Engle, 1982) and its asymmetric version EGARCH in its Volatility Modeling(Bollerslev, 1986).

Recent studies have greatly expanded our understanding of volatility clustering and leverage effects in financial markets. For example, (Álvarez et al., 2025) analyzed the behaviour of asset returns in developing economies and found that volatility clustering is more pronounced in situations marked by regulatory movements and macroeconomic instability. Similarly, (Maharana et al., 2025) examined mutual funds in India and discovered that market turbulence and investor emotion led to dramatic volatility patterns that differ significantly from those observed in developed economies. These results highlight how important it is to incorporate market-specific factors when evaluating volatility. On the leverage effect front, studies by (Pamba et al., 2025) have shown that different fund types experience asymmetrical volatility impacts from negative shocks. According to their research, mutual funds, especially those that oversee a combination of debt, equity, and hybrid assets, display unique patterns of leverage that are impacted by the underlying asset compositions and market-specific variables.

In the Indian context, most research has concentrated on equity funds, frequently treating mutual funds as a homogenous asset class (Silva et al., 2025). This oversight ignores the complex ways that debt and hybrid funds behave, as their risk profiles and reactions to market fluctuations can be very different from those of equity funds. Consequently, a thorough analysis that takes these variances into account is lacking in the existing literature. Consequently, the complex behaviours resulting from varying risk exposures and asset allocations are still not well understood. For instance, market sentiment may demonstrate larger volatility clustering in equities funds, but interest rate swings may have a greater impact on debt funds. Despite the fact that some recent research has started to look at Indian mutual funds (Madhavi Latha & Sreedevi, 2024), there is a notable gap in the literature about how different fund types react to market shocks and how these reactions vary from global trends. Considering India's distinct legislative, economic, and investment characteristics, this gap is crucial.

3. Research Gap and Uniqueness of the Study

Comprehensive studies examining volatility clustering and leverage effects across equity, debt, and hybrid mutual funds are very limited in India despite the expanding corpus of research on market volatility. The benefits of diversification, active management, and exposure to a variety of asset classes set mutual funds apart from individual equities and call for a different method of assessing risk and return behaviour. Existing studies on the Indian mutual fund market mostly concentrate on fund selection criteria, expense ratios, and performance evaluation; they pay little attention to how persistent volatility patterns are. Furthermore, there is still a lack of study on how leverage effects appear in various fund categories under various market circumstances. Understanding these volatility dynamics is essential for regulatory monitoring and

portfolio strategy optimization, especially in light of the growing number of retail and institutional investors in Indian mutual funds.

4. Conceptual Framework of the Study

Based on the extensive literature review, the proposed conceptual framework of the study is presented in Figure 1. The framework highlighted that the study examines two key dynamic features in the Indian mutual fund industry Volatility Clustering: The tendency for high (or low) volatility periods to cluster over time. And Leverage Effect: The asymmetric response of volatility to negative shocks (typically, Future volatility is generally increased by negative returns more than by positive returns of the same magnitude). For this, we have taken the historical NAV data of Indian mutual funds of the broad fund Categories: Equity Funds, Debt Funds and Hybrid Funds. The study employs advanced statistical models such as ARMA, GARCH and customized variants of GARCH models (i.e. EGARCH) tailored for the Indian context. The ARMA and GARCH models are used to capture volatility clustering, which quantifies the persistence of volatility over time. The EGARCH model is applied to test for the leverage effect, which examines whether negative shocks have an asymmetric impact on future volatility compared to positive shocks or not. Then, we applied the advanced GARCH models to each fund category to estimate the dynamic behaviour of volatility and compared the estimated parameters across different fund types, i.e. equity, debt and hybrid funds, to assess the degree of volatility clustering and to estimate the presence or absence of the leverage effect. This comparative study identifies distinct risk profiles that have been mostly disregarded in previous studies. And how these factors are leading to investment decisions. The empirical results of our study are translated into useful information for fund managers, policymakers, and service providers. We provide customized suggestions that cater to both academic and practical requirements by examining the lack (or existence) of leverage effect inside the operational realities of the Indian market.

Our study not only closes a significant gap by offering a unique examination of mutual fund types in India, but it also updates the existing literature with new empirical data and sophisticated modelling tools. This comprehensive approach promises to enhance our understanding of market dynamics in emerging economies and inform more effective risk management and regulatory strategies.

5. Methodology

Risk assessment is a critical consideration for various stakeholders, including investors, policymakers, managers, and financial experts. Risk, fundamentally, results from the uncertainty surrounding expected returns. To gauge the volatility of funds and effectively manage risk, various statistical tools have been developed. Considering the fluctuations in returns within the financial market, numerous models have been devised. To address these needs, (Engle, 1982)proposed a robust method known as ARCH (Autoregressive Conditional Heteroskedasticity), which takes into account conditional volatility by utilizing the lagged square residuals as a key component. The formulation is as follows:
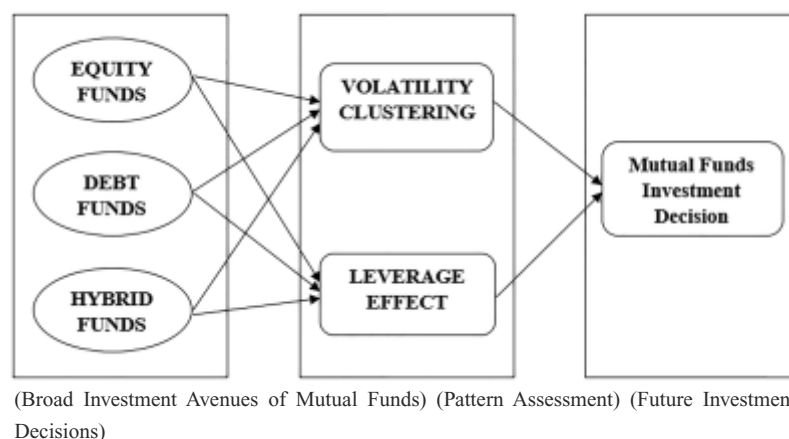

(Broad Investment Avenues of Mutual Funds) (Pattern Assessment) (Future Investment Decisions)

Figure 1. Conceptual Framework: Volatility Clustering and Leverage Effect in Indian Mutual Funds

$$\sigma_t^2 = \alpha_0 + \sum_{i=1}^{q} \alpha_i \, \varepsilon_{t-1}^2 \dots\dots\dots\dots\dots (1)$$

Here a_0 refers to mean or average.

a_i refers to volatility, i.e., conditional and

e_{t-1} is white noise representing residuals of time series.

Subsequently, it was observed that the ARCH model had several limitations, particularly its inability to effectively capture volatility clustering. In response, (Bollerslev, 1986) introduced an enhanced model, building upon the foundation of the ARCH model. This new model, known as the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) model, takes into account both lagged variances and lagged square residuals. It has been shown that the GARCH model permits the consideration of recent as well as historical shocks in volatility calculations, which greatly aids in identifying and understanding volatility clustering.

The GARCH (p, q) model can be expressed as follows:

$$\sigma_t^2 = \omega + \sum_{i=1}^{q} \alpha_j \, \varepsilon_{t-J}^2 + \sum_{i=1}^{p} \beta_i \, \sigma_{t-J}^2 \dots\dots\dots\dots (2)$$

Where, I= 0,1,2, 3..... p, conditional volatility, w, a_J, b_i are constraints that are non-negative with $a_J + b_i < 1$ for an accurate model. It should be near to unity. And e_{t-J} c is lagged conditional volatility and residuals.

Here, we can see the formula which includes the ARCH and GARCH model, i.e., ARCH symbolizes a_J and ε_{t-J}^2 while β_i and σ_{t-J}^2 refer to the GARCH model. Both models assume that a symmetric distribution of volatility shocks exists.

The implementation of these models has revealed that different developed countries yield varying outcomes when employing both the ARCH and GARCH models, primarily due to their distinct circumstances. While the GARCH model takes into account numerous factors to measure volatility in financial time series, several other critical aspects, such as fat tails and the leverage effect, remain unaddressed. To tackle these issues, advanced models were introduced, capable of identifying that negative shocks increase volatility more than positive shocks. This problem was initially recognized and articulated by (Black, 1976), and subsequently, several researchers empirically proposed various models within the GARCH family, including the EGARCH model by (Nelson, 1991), the GJR GARCH model by (Glosten et al., 1993), the TGARCH model by (Zakoian, 1994), among others.

Building upon the information presented above, this paper focuses on the EGARCH model, an advanced extension of the ARCH/GARCH framework. The choice of EGARCH is made in consideration of its ability to address certain limitations, particularly its capacity to evaluate the impact of larger shocks on volatility. Additionally, both ARCH and GARCH models are employed to examine distribution asymmetry respectively. This selection aids in analyzing the stock return characteristics of future and spot indices.

The EGARCH model can be defined as follows:

$$\log\sigma_t^2 = \omega + \sum_{k=1}^{q} \beta_k \, g(Z_{t-k}) + \sum_{k=1}^{p} \alpha_k \log\sigma_{t-k}^2 \dots\dots\dots\dots (3)$$

Where s_t^2 is the conditional variance w, b, a are coefficients.

Z_t may be a standard normal variable or come from a generalized error distribution. The formulation for $g(Z_t)$ allows the sign and the magnitude of Z_t to have separate effects on volatility.

For this analysis, the chosen methodology will be the ARCH/GARCH model, employed to assess the nature of volatility in each fund category. To examine characteristics such as leptokurtosis, leverage effects, volatility clustering, and long memory, the EGARCH model is particularly well-suited.

6. Empirical Analysis and Result

The analysis is conducted on the secondary data, encompassing a total of 1,371 daily average prices from the Association of Mutual Funds in India (Equity, Debt and Hybrid funds) over an extensive period of five years and eight months, spanning from January 1, 2018, to 2023*. The return is computed using the formula:

$$R_t = \text{Log}\left(\frac{P_t}{P_{t-1}}\right) \dots\dots\dots\dots (4)$$

6.1 Descriptive statistics:

Descriptive statistics provide essential and foundational characteristics of variables. Among the funds listed in Table 1, equity funds exhibited the highest average annual return at 0.090598, making them the most profitable option overall. In contrast, debt funds and hybrid funds yielded nearly equivalent returns for the specified period, averaging at 0.030759 and 0.06035 respectively. This indicates that, on average, equity funds outperform their competitors as investment options.

Table 1. Descriptive Statistics

	Equity	Debt	Hybrid
Mean	0.090598	0.030759	0.06035
Median	0.16	0.02	0.12
Maximum	6.49	1.55	6.18
Minimum	-9.9	-1.03	-9.29
Std. Dev.	1.068718	0.190527	0.782849
Skewness	-1.151493	0.840222	-1.603063
Kurtosis	15.013	15.0909	27.27519
Jarque-Bera	8546.803	8512.418	34250.09
Probability	0	0	0
Sum	124.21	42.17	82.74
Sum Sq. Dev.	1564.756	49.73181	839.6082
Observations	1371	1371	1371

From a risk standpoint, equities funds are observed to be the most volatile, exhibiting a Standard Deviation (S.D.) of 1.068718%. Conversely, debt funds are characterized by the lowest volatility, with a Standard Deviation (S.D.) of 0.190527%.

Due to their negative skewness, equity and hybrid funds indicate a greater likelihood of experiencing significant declines in returns. In contrast, debt funds exhibit positive skewness, signifying a higher probability of experiencing substantial increases in returns.

6.2 Test of Normality:

The Jarque-Bera test proves to be a valuable tool for assessing the assumption of normality within a dataset. This test aids researchers and analysts in determining the most appropriate statistical methods and models for their data analysis. As shown in Table 1, the results of the Jarque-Bera test indicate that the null hypothesis of normality is rejected for each fund, as the p-value is less than 0.05.

$$JB = \frac{N}{6}S + \frac{N}{24}K$$

Where S represents skewness, K denotes kurtosis, and N signifies the number of estimations.

6.3 Stationarity Test:

The unit root test is employed to ascertain the stationary or non-stationary nature of the variables (Rao & Gabr, 1980). It's important to emphasize that the variables should exhibit

non-stationarity in their level form and stationarity at the first difference, and we found our variables stationarity at the first difference. This prerequisite is essential for modelling and is a necessary condition for conducting GARCH tests. In our study, we employ the unit root test to assess the stationary or non-stationary characteristics of the variables. Specifically, we have chosen to utilize the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests.

Null Hypothesis (H_o) – The variables possess a unit root, or the data is non-stationary.

Alternative Hypothesis (H_1) – The variables do not have a unit root, or the data is stationary.

In Table 2, the unit root or stationarity of the return series is examined using the ADF and PP tests. The results of both the ADF and PP tests indicate significance at the 1% level. This signifies that the alternative hypothesis is supported while rejecting the null hypothesis, indicating that the return series exhibits stationarity. Consequently, it can be inferred that there is no autocorrelation present.

After the non-normality and stationarity of the data series are confirmed, the volatility of the data series can be assessed using the GARCH (1, 1) model. To choose the appropriate GARCH ARMA (p, q) model for each fund, the significance of the data series and the minimum AIC (Akaike info criterion) and SC (Schwarz Criterion) criteria are taken into consideration. The findings of the GARCH model, indicating the existence of volatility and its persistence, following the model selection through ARMA, are presented in Table 3.

Table 2. Test of Stationary
Conducting the Augmented Dickey-Fuller (ADF) Test to detect the presence of a unit root

Indices	Intercept		Trend and Intercept		None	
	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.
Equity Funds	-19.57	0	-19.578	0	-14.426	0
Debt Funds	-8.7384	0	-8.7384	0	-6.472	0
Hybrid Funds	-13.813	0	-13.853	0	-13.613	0

Conducting the Phillips-Perron (PP) Test to detect the presence of a unit root

Indices	Intercept		Trend and Intercept		None	
	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.
Equity Funds	-37.533	0	-37.529	0	-37.494	0
Debt Funds	-37.12	0	-37.106	0	-36.295	0
Hybrid Funds	-38.739	0	-38.739	0	-38.723	0

Table 3. Test of ARMA and GARCH

Variable	ARMA Model	α+β	Null Hypothesis	Persistence
Equity Funds	1,1	0.96303	Rejected	Exist
Debt Funds	1,1	0.99954	Rejected	Exist
Hybrid Funds	1,1	0.98671	Rejected	Exist

The results of the ARMA model testing are presented in Table 3, demonstrating a satisfactory outcome that justifies the consideration of the ARCH or GARCH model. In Table 3, we observe at 1% level of significance for the ARCH model. This indicates that our alternative hypothesis, which suggests the persistence of ARCH effects in the return series, is accepted, while the null hypothesis is rejected, confirming the model as ARCH (1).

Once the presence of ARCH effects is established, we proceed to analyze the data with a GARCH model to account for changing variance. The analysis specifically employs the GARCH (1, 1) model. The results indicate a positive result at 1% level of significance for the equity, debt and hybrid mutual funds, suggesting the existence of volatility clustering. This, in turn, supports our alternative hypothesis, stating that the return series exhibits volatility clustering while the null hypothesis is refuted.

In a more general sense, the persistence of volatility depends on previous periods. If the GARCH result for   and   when added together, approaches one (i.e., unity), it indicates the persistence of stock to conditional variance. The combined result (+) shows the persistence of the return series for all the data.

With the confirmation of volatility clustering, the subsequent objective is to test the leverage effect, which examines the occurrence of volatility due to bad shocks or good shocks using the EGARCH model. Table 4 displays the results of the EGARCH analysis for the leverage effect.

Table 4. Test of EGARCH

Variable	ARMA Model	Gamma(γ)	Hypothesis
Equity Funds	1,1	0.954811	Rejected
Debt Funds	1,1	0.987418	Rejected
Hybrid Funds	1,1	0.976623	Rejected

Examining Table-4, the return series of equity, debt and hybrid mutual funds are subjected to testing for asymmetric behavior, alongside an exploration of the leverage effect. The analysis employs the EGARCH model to interpret the leverage effect. Anticipated in the EGARCH model's result, the gamma ( ) value, specifically denoted as C (7), is expected to be negative and significant. If the coefficient is more than 0.5, shocks persist; otherwise, they die off quickly over time. The result C (7) indicates that there is persistence of shocks. Similarly, if the log (GARCH (-1)) coefficient is equal to 1.0, the effect is considered permanent; if not, it is considered temporary. The result demonstrates that the impact of shock is permanent, i.e., C (7) is very close to 1.0. Here, the sign is positive and statistically significant; it means that the returns of mutual funds will be affected as compared to negative shocks, and positive shocks cause more volatility. Therefore, it can be characterized as Equity, Debt and Hybrid funds exhibiting high volatility, and there is no presence of leverage effect.

7. Discussion

7.1 Findings with Respect to Conceptual Framework

Our analysis reveals there is no statistical evidence of leverage effect; it does indicate that volatility clustering is present across each fund type (i.e., equity, debt and hybrid funds). These findings offer fresh perspectives unique to the Indian context while also supporting well-established financial theories. The identification of volatility clustering is consistent with the groundbreaking research of Bollerslev (1986) and Engle (1982), which shows that times of high volatility are frequently followed by similarly turbulent periods. Our research demonstrates that this tendency is not only common in developed economies but also a distinguishing feature of the mutual fund sector in India. Interestingly, it seems that the degree of clustering varies depending on the type of fund- i.e equity, debt, and hybrid.

Based on the study's findings, here are customized investment decision suggestions for each mutual fund category:

Equity Funds: Equity funds are likely to have more noticeable short-term fluctuations because they show high volatility clustering. The possibility of high returns that frequently accompany such volatility may be more advantageous to investors with a longer investment horizon and a higher risk tolerance. To guard against sudden market declines, use strategies like stop-loss orders and dynamic hedging. Observe market circumstances closely in order to

make appropriate portfolio modifications, particularly during times of increased volatility. Diversification within the equities segment or the combination of equity funds with less volatile assets are wise strategies to reduce total portfolio risk because of the distinct response (or absence) of the leverage effect.

Debt Funds: Investors who value stability and capital preservation may find debt funds attractive due to their potential for lower volatility levels and distinct clustering dynamics. They can act as a buffer against market shocks because of their predictable behaviour, even in volatile markets. When a more conservative approach to investing is desired or when market conditions are uncertain, think about putting a bigger percentage of the portfolio into debt funds. Debt funds, with their lower volatility, are also appropriate for investors who want a steady income with less risk.

Hybrid Funds: Hybrid funds, with their diverse asset mix, exhibit a combination of equity and debt behaviours. This makes them suitable for investors looking for a balance between growth and risk mitigation. Using hybrid funds as a core component of their portfolios allows investors with a moderate risk tolerance to take advantage of both the stability of debt instruments and the growth potential of equity funds. It is advised to regularly rebalance in order to maintain the desired risk-return profile and respond to changing market conditions by adjusting the proportion of debt and equity exposure.

Our analysis found no evidence of a major leverage effect in the Indian mutual fund market, which is in contrast to traditional findings (e.g., Black, 1976) that show a negative connection between returns and future volatility (i.e., negative shocks enhance subsequent volatility). This departure from accepted theory brings up significant issues in relation to Indian investor behaviour and market structure. The absence of the leverage effect in this study contributes to the literature by pointing out that emerging economies like India might function under distinct risk dynamics, even if prior research in a variety of international contexts has documented the leverage effect. Based on personal risk tolerance, investing objectives, and market outlook, combine the three fund categories. Risk and return can be balanced using a diverse portfolio that consists of a variety of debt, equity, and hybrid funds. Further investigation into the precise elements such as fund composition, market liquidity, and regulatory policies that can affect how the leverage effect manifests in similar environments is encouraged by this discovery.

7.2 Practical Implications

The conclusions drawn from our study have various practical implications for stakeholders:

For Fund Managers: Fund managers should create flexible risk management procedures that take into consideration prolonged periods of high volatility in light of the persistence of volatility clustering. This could involve tactics like regular portfolio rebalancing and using sophisticated hedging methods when the market is volatile. Since there is no leverage effect, conventional risk models, which frequently include asymmetrical volatility reactions to negative returns, may need to be adjusted for the Indian environment. Other methods that better capture the consistent, rather than shock-induced, risk patterns found in this study should be taken into account by fund managers.

For Policymakers: The prolonged nature of volatility periods indicated by clustering necessitates measures that address not only sudden market shocks but also the impact of sustained volatility. Regulatory interventions could include enhanced disclosure norms and proactive monitoring mechanisms during volatile periods. Understanding that negative shocks do not result in disproportionate volatility increases may provide a foundation for developing investor protection policies that prioritize long-term market stability over immediate corrective measures following downturns.

For Service Providers: Financial advisors can use these insights to provide better advice. Understanding that volatility clustering creates a constant risk profile, advisors might modify their recommendations to include techniques that predict ongoing volatility instead of anticipating sudden spikes in volatility after market downturns. Service providers may think about creating new fund types or financial product variations that specifically take into account the observed risk dynamics. This would give investors instruments that are more suited for situations where volatility is prolonged than for ones that are reactive. Service providers can create communication strategies that assist clients in comprehending the distinct risk profiles of various fund types. For example, they can highlight that, although equity funds may exhibit greater clustering, the anticipated lack of a leverage effect may provide some protection against market declines.

8. Conclusion

The investigation of volatility clustering and leverage effect in the Indian mutual funds industry through the application of ARMA/GARCH models has yielded valuable insights into the dynamic nature of market volatility. In conclusion, while the presence of volatility clustering in the Indian mutual fund industry reinforces long-standing empirical evidence, the non-detection of the leverage effect challenges conventional expectations and signals the need for a more sophisticated comprehension of market dynamics in emerging economies. By positioning our findings within the broader academic discourse, we underscore the importance of market-specific dynamics in shaping risk profiles. The insights provided here have direct implications for fund managers, policymakers, and service providers, emphasizing the need for adaptive risk management, regulatory innovation, and informed investor guidance in an evolving financial landscape. Future research could further explore the underlying mechanisms that mitigate the leverage effect in India and assess the long-term impact of volatility clustering on fund performance.

References

Acharya, A., Gupta, S., Kumba, K., & Upender, P. (2025). Leveraging momentum clustering and PID control for enhanced portfolio management. *Cogent Economics & Finance*, *13*(1). https://doi.org/10.1080/23322039.2024.2449194

Álvarez, E., Brida, J. G., Moreno, L., & Sosa, A. (2025). Comprehensive analysis of the crypto-assets market through multivariate analysis, clustering, and wavelet decomposition. *Physica A: Statistical Mechanics and Its Applications*, *660*, 130330. https://doi.org/10.1016/j.physa.2024.130330

Black, F. (1976). Studies of stock market volatility changes. *Proceedings of the American Statistical Association, Business & Economic Statistics Section,1976.*

Bollerslev, T. (1986). Generalized autoregressive conditional heteroskedasticity. *Journal of Econometrics*, *31*(3), 307–327. https://doi.org/10.1016/0304-4076(86)90063-1

Christie, A. (1982). The stochastic behaviour of common stock variances Value, leverage and interest rate effects. *Journal of Financial Economics*, *10*(4), 407–432. https://doi.org/10.1016/0304-405X(82)90018-6

Elton, E. J., & Gruber, M. J. (1997). Modern portfolio theory, 1950 to date. *Journal of Banking & Finance*, *21*(11–12), 1743–1759. https://doi.org/10.1016/S0378-4266(97)00048-4

Engle, R. F. (1982). Autoregressive Conditional Heteroscedasticity with Estimates of the Variance of United Kingdom Inflation. *Econometrica*, *50*(4), 987. https://doi.org/10.2307/1912773

Fama, E. F. . (1965). The Behavior of Stock-Market Prices. *The Journal of Business*, *38*(1), 34–105.

Gavrilakis, N., & Floros, C. (2025). Sustainable finance, herding behaviour and risk aversion during market volatility. *EuroMed Journal of Business*. https://doi.org/10.1108/EMJB-11-2023-0308

Glasserman, P., Mamaysky, H., & Shen, Y. (2023). Dynamic Information Regimes in Financial Markets. *SSRN Electronic Journal*, 48. https://doi.org/10.2139/ssrn.3324789

Glosten, L. R., Jagannathan, R., & Runkle, D. E. (1993). On the Relation between the Expected Value and the Volatility of the Nominal Excess Return on Stocks. *The Journal of Finance*, *48*(5), 1779. https://doi.org/10.2307/2329067

Herbert, W. E., Ugwuanyi, G. O., & Nwaocha, E. I. (2019). Volatility Clustering, Leverage Effects and Risk-Return Trade-Off in the Nigerian Stock Market. *Journal of Finance and Economics*, *7*(1), 1–13. https://doi.org/ 10.12691/jfe-7-1-1

Ibrahim, B. A., Elamer, A. A., Alasker, T. H., Mohamed, M. A., & Abdou, H. A. (2024). Volatility contagion between cryptocurrencies, gold and stock markets pre-and-during COVID-19: evidence using DCC-GARCH and cascade-correlation network. *Financial Innovation*, *10*(1), 104. https://doi.org/10.1186/s40854-023-00605-z

Iriabije, A. O., Effiong, U. E., & Inyang, N. F. (2022). Capital Market Volatility and Real Sector Expansion in Nigeria. *Research in Social Sciences*, *5*(2), 78–93. https://doi.org/10.53935/26415305.v5i2.245

Jena, J. R., Biswal, S. K., Shrivastava, A. K., & Panigrahi, R. R. (2023). A bibliographic overview of financial engineering in the emerging financial market. *International Journal of System Assurance Engineering and Management*, *14*(6), 2048–2065. https://doi.org/10.1007/s13198-023-02123-8

Jensen, M. C. (1972). Capital Markets: Theory and Evidence. *The Bell Journal of Economics and Management Science*, *3*(2), 357. https://doi.org/10.2307/3003029

Lewrick, U., & Schanz, J. (2023). Towards a Macroprudential Framework for Investment Funds: Swing Pricing and Investor Redemptions". *International Journal of Central Banking*, *19*(3), 229–267.

López Vázquez, B., MartÍnez-Gonzalo, J.-M., Gómez Olmedo, A. M., & Guevara Riera, M. F. (2025). Understanding sustainable investments: an empirical study of best-in-class mutual funds. *The Journal of Risk Finance*, *26*(1), 78–97. https://doi.org/ 10.1108/JRF-05-2024-0131

Madhavi Latha, C. H., & Sreedevi. (2024). *A Comparative Analysis of Large, Mid and Small Cap Mutual Funds Performance in India* (pp. 301–309). https://doi.org/ 10.1007/978-3-031-56586-1_23

Maharana, N., Panigrahi, A. K., Chaudhury, S. K., Uprety, M., Barik, P., & Kulkarni, P. (2025). Economic Resilience in Post-Pandemic India: Analysing Stock Volatility and Global Links Using VAR-DCC-GARCH and Wavelet Approach. *Journal of Risk and Financial Management*, *18*(1), 18. https://doi.org/ 10.3390/jrfm18010018

McAleer, M., Chan, F., & Marinova, D. (2007). An econometric analysis of asymmetric volatility: Theory and application to patents. *Journal of Econometrics*, *139*(2), 259–284. https://doi.org/ 10.1016/j.jeconom.2006.10.014

Mishra, B. B., Sahay, N., & Sharma, P. (2025). Investigating the spillover effect of implied volatility on nifty return in different time periods with reference to index options: a multivariate GARCH approach. *International Journal of System Assurance Engineering and Management*. https://doi.org/ 10.1007/s13198-025-02711-w

Molina-Muñoz, J., Mora–Valencia, A., Perote, J., & Rodríguez-Raga, S. (2025). Volatility transmission dynamics between energy and financial indices of emerging markets: a comparison between the subprime crisis and the COVID-19 pandemic. *International Journal of Emerging Markets*, *20*(1), 135–156. https://doi.org/10.1108/IJOEM-10-2021-1551

Naseer, M. M., Guo, Y., Bagh, T., & Zhu, X. (2024). Sustainable investments in volatile times: Nexus of climate change risk, ESG practices, and market volatility. *International Review of Financial Analysis*, *95*, 103492. https://doi.org/10.1016/j.irfa.2024.103492

Nelson, D. B. (1991). Conditional Heteroskedasticity in Asset Returns: A New Approach. *Econometrica*, *59*(2), 347. https://doi.org/10.2307/2938260

Pamba, D., Mukorera, S., & Moores-Pitt, P. (2025). The asymmetric effects of cross-border equity flow volatility on equity market returns in SANEK countries. *Quantitative Finance and Economics*, *9*(1), 40–75. https://doi.org/10.3934/QFE.2025002

Sharma, S. K. (2025). Enhancing Stock Portfolio Selection with Trapezoidal Bipolar Fuzzy VIKOR Technique with Boruta-GA Hybrid Optimization Model: A Multicriteria Decision-Making Approach. *International Journal of Computational Intelligence Systems*, *18*(1), 17. https://doi.org/10.1007/s44196-025-00733-7

Silva, S. E. da, Fonseca, S. E., Roma, C. M. da S., Han, S. H., & Iquiapaza, R. A. (2025). Investor sentiment and equity mutual fund performance in Brazil. *Journal of Economics, Finance and Administrative Science*. https://doi.org/10.1108/JEFAS-12-2023-0280

Trinidad Segovia, J. E., Fernández-Martínez, M., & Sánchez-Granero, M. A. (2019). A novel approach to detect volatility clusters in financial time series. *Physica A: Statistical Mechanics and Its Applications*, *535*, 122452. https://doi.org/10.1016/j.physa.2019.122452

Varoglu, N., & Varoglu, A. (2025). *Exploring Dynamic Volatility Transmission in Canadian and Global Financial Markets* (pp. 387–408). https://doi.org/10.4018/979-8-3693-8186-1.ch015

Wang, X., Wang, R., & Zhang, Y. (2024). Is there more to asset price linkages in China than meets the eye: Cross-asset momentum and the role of hybrid funds. *International Review of Financial Analysis*, *95*, 103342. https://doi.org/10.1016/j.irfa.2024.103342

Wang, Z., Chen, P., Liu, P., & Wu, C. (2024). Volatility forecasts by clustering: Applications for VaR estimation. *International Review of Economics & Finance*, *94*, 103355. https://doi.org/10.1016/j.iref.2024.05.034

Zakoian, J.-M. (1994). Threshold heteroskedastic models. *Journal of Economic Dynamics and Control*, *18*(5), 931–955. https://doi.org/10.1016/0165-1889(94)90039-6

Ze, Y., & Loang, O. K. (2024). Strategic Flexibility in Investment Portfolios: Adapting to Technological Advancements and Market Volatility in Emerging Economies. In *Unveiling Investor Biases That Shape Market Dynamics* (pp. 251–272). https://doi.org/10.4018/979-8-3693-9380-2.ch010

Zhang, S., & Fang, W. (2021). Multifractal Behaviors of Stock Indices and Their Ability to Improve Forecasting in a Volatility Clustering Period. *Entropy*, *23*(8), 1018. https://doi.org/10.3390/e23081018

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The Power of Premium Price Framing: Shaping Consumers' Life Insurance Purchase Behavior

Ritika Bhatia
TAPMI School of Business
Manipal University Jaipur, Jaipur
Email: ritika.bhatia@jaipur.manipal.edu

Anil K. Bhat
Department of Management,
BITS Pilani, Pilani, Rajasthan, 333031, India
Email: anilkbhat@pilani.bits-pilani.ac.in

Jyoti Tikoria
Department of Management,
BITS Pilani, Pilani, Rajasthan, 333031, India
Email: jyoti@pilani.bits-pilani.ac.in

A b s t r a c t

This study delves into whether framing premium prices shapes consumers' intentions to purchase endowment life insurance policies while controlling for the participants' risk perceptions about COVID-19. We performed a between-subject experiment to examine the framing effect of premium prices on consumers' intention to purchase endowment life insurance policies. The between-subject experiment involves randomly assigning sets of endowment policies with premium prices framed in yearly terms to the control group and assigning sets of endowment policies with premium prices framed in monthly terms to the treatment group. We adopted the choice-based conjoint analysis method to elicit consumers' stated preference for the set of endowment life insurance policies with or without the framing effect. ANCOVA analysis of the collected data revealed a significant positive effect of framing premium price on purchase intentions, with a notable preference for monthly framing. However, the study did not find significant evidence to support the moderation effect of income on the direct effect of framing on purchase intention. This research provides novel insights into the interplay of framing and consumer behaviour within the context of life insurance. The work also provides valuable insights that can aid regulators in devising more effective consumer policies to increase consumer interest in the insurance marketplace.

Keywords: Premium Price Framing, Life Insurance, Purchase Behavior, Pennies-a-day strategy, Between-subject experiment.

1. Introduction

In India, as per the Economic Survey by the Ministry of Finance, only 3 out of 100 people have a life insurance policy, despite a life insurance penetration and density of 4.2% and USD 91, respectively, in 2021-22 (IRDAI Annual Report, 2021-22). Studies have demonstrated that due to cognitive biases or heuristics, consumers often deviate from rational choice behaviour while purchasing insurance policies (Huber et al., 2015). These deviations in the consumers' purchase behaviour can be attributed to the different components of the insurance purchase decision, like estimations of the probability of the risk they may face in the future, the cost of the insurance policy, and its benefits (Johnson et al., 1993).

Framing, a cognitive tool that affects decision-making, plays a key role within the consumer policy framework. Specifically, the framing of choices influences individuals' decision-making (Levin et al., 1998). Based on this notion, the studies in the literature used different frames (i.e., different representations or descriptions of the same information) and demonstrated that decision-makers respond differently to different but objectively equivalent descriptions of the information (Tversky & Kahneman, 1981; Johnson et al., 1993; Salovey & Williams-Piehota, 2004; Yin & Dubinsky, 2004; Botzen et al., 2013; Lin, 2021).

Prior research on framing effects in insurance contexts mainly focuses on non-life insurance, unit-linked life insurance, term life microinsurance, and annuity products. Studies in life insurance products have examined price bundling or de-bundling and premium payment modality effects on consumer behaviour. However, no research has explored the impact of framing of premium prices on endowment life insurance products and the role of liquidity constraint on the framing effect. This study investigates the effect of framing premium prices on consumers' purchase intention for endowment life insurance policies while controlling for participants' risk perception about COVID-19. We adopted the risk perception scale by Dryhurst et al. (2020) to measure COVID-19 risk perception.

We derived the first hypothesis based on the Pennies-a-day(PAD) strategy proposed by Gourville (1998), which is primarily developed using prospect theory by Kahneman and Tversky (1979) and the rules of hedonic editing by Thaler (1995). We also hypothesised and tested that liquidity constraint affects the causal relationship between the framing and purchase intention to examine whether the liquidity constraint is the major reason for the framing effect. The research carries significant importance in the context of developing better consumer policies. This study addresses a critical aspect of consumer decision-making in an era where consumer protection and empowerment are central to regulatory agendas. By investigating the impact of framing on consumers' intentions to purchase endowment life insurance policies, the study directly contributes to the formulation of more effective and informed consumer policies.

We organise the rest of the paper as follows. Section 2 provides a literature review and develops the hypotheses. Section 3 presents the methodology adopted in this study and the experimental design. Section 4 discusses the analysis and interpretation of the experiment results in detail. We then discuss the findings and the implications of the study in Section 5 and then present the moderating effect of liquidity constraint on the framing effect in Section 6. In Section 7, we conclude our research study.

2. Literature Review and Hypotheses Development

Prospect theory, developed by Kahneman and Tversky (1979), explains the risky choice behaviour of consumers by characterising choices using a value function and coding outcomes as gains or losses relative to a reference point. Later, Thaler (1985) proposed a mental accounting principle to understand how consumers perceive and code multiple outcomes while making decisions. Thaler (1985) states that while performing the mental accounting process of coding, categorising, and evaluating multiple outcomes, individuals follow key hedonic editing rules of maximising pleasure and minimising pain. Hedonic editing rules are the guidelines followed during the editing phase to get the prospects' alternative representation. Customers can arbitrarily integrate or segregate the outcomes to maximise pleasure. Thaler (1985) derived four rules of hedonic editing grounded in the principles of prospect theory that individuals adopt to evaluate multiple outcomes. The concave nature of the gain function means that the perceived value of additional gains diminishes as the amount increases, making it beneficial to segregate gains. On the other hand, the convex nature of the loss function indicates that the perceived pain of additional losses increases at a decreasing rate, making it advantageous to integrate losses.

Based on this notion, the pennies-a-day strategy proposed by Gourville (1998) tested the effect of framing the cost and benefit of the product in a segregated form on the perceived

attractiveness of the transaction. Gourville (1998) investigated the effect of framing the payment in a segregated form on individuals' likelihood to donate. He found that donations increased when prices were framed in per-day terms rather than in aggregated form. The author explains the reasons for the effectiveness of the PAD strategy through the process of "comparison retrieval" followed by "transaction evaluation". In this process, the author considered the mental accounting principle adopted by consumers to categorise transactions into mental accounts and then evaluate the transactions based on these mental account contexts. Therefore, a PAD framing of a target transaction encourages the recall of minor, recurring and affordable expenses as a comparison standard, whereas an aggregate framing of the same transaction prompts the recall of significant, infrequent expenses. The author also identified a significant moderating effect of monetary magnitude on customers' transaction evaluation.

In a subsequent study, Gourville (1999) explored the moderating influence of consumption rates (immediate versus continuous consumption) on the relationship between framed prices and consumer product evaluation. The findings showed that prices framed in per-day terms were more effective for continuously consumed products than aggregate prices. Gourville (2003) conducted a study investigating the influence of transaction monetary magnitude and framing levels on customer price attractiveness. The study examined the role of monetary magnitude by comparing the effects of framed prices expressed daily, monthly, and yearly. It found that for high-magnitude expenses, the impact of framing is reversed, with consumers preferring yearly prices over daily and monthly prices. However, Bambauer-Sachse and Mangold (2009) highlight complexities linked to price and consumer perception of manipulation. They examined the strong negative effect of price complexity and consumers' feeling of being manipulated, as well as the direct positive effect of framed prices on product evaluation. This leads to a negative effect of framing prices on consumer product evaluation.

Early research on diverse insurance products has also unveiled the power of framing effects on consumers' choices. Bauchet and Morduch (2019) investigated premium payment modalities for term life insurance demand among Mexican microfinance customers, noting a 59-74% demand increase when instalment payments were offered despite the higher total cost. The study attributed this to liquidity and saving constraints. Huber et al. (2015) studied the effect of presenting bundled or de-bundled prices on unit-linked life insurance purchase intentions, finding no significant impact.

Pincus et al. (2017) explored the impact of framing on consumers' willingness to pay for long-term care insurance. They identified a significant positive effect of emotional frames over rational risk frames on consumers' willingness to pay. Camerer and Kunreuther (1989) showed the influence of framing on insurance-related risky choices. Johnson et al. (1993) discovered framing effects on consumers' decisions to purchase various insurance types. They found policies with rebates more appealing than those with deductibles. Brown et al. (2013) revealed that consumers preferred annuities framed as consumption-focused rather than investment products. Botzen et al. (2013) investigated flood insurance demand using risk communication frames, observing increased household willingness to pay.

Kairies et al. (2023) examined the impact of health insurance design on reducing inefficient care. The authors compared the effectiveness of cost-sharing and rebate strategies in promoting efficient healthcare practices. They found that cost-sharing reduces healthcare utilisation but does not necessarily result in a reduction in low-value care. Rebates do not lead to increased healthcare utilisation. Burkovskaya et al. (2022) investigated how framing affects insurance decisions. The authors found that the treatment group, given a comprehensive description of the risk, chose more comparable deductibles than the control group, which received a succinct description, underscoring the significant impact of framing on insurance choices. Zheng (2020) explained how narrow framing affects insurance decisions and suggested adding a deductible and co-insurance to the optimal insurance contract, highlighting the need to merge traditional insurance economics with behavioural economics.

Building on the mental accounting principle based on the prospect theory and prior framing research, this study hypothesises that framing endowment life insurance premium prices in monthly terms enhances product attractiveness. Furthermore, as discussed earlier, the PAD strategy of temporally segregating the payment amount into smaller amounts encourages the recall of minor, recurring and affordable expenses as a comparison standard by the consumers, we propose that consumers' income levels play a moderating role in the relationship between framing effect and consumers' endowment life insurance policy purchase

intention. Low-income individuals, constrained by liquidity concerns, may exhibit heightened responsiveness to framing due to the perceived affordability offered by staggered payments but less pronounced for their high-income counterparts. Therefore, the two hypotheses tested in this study are as follows:

H1: Consumers' intention to purchase endowment life insurance policies will be higher when the premium price is framed monthly rather than yearly.

H2: Income moderates the impact of framing premium price in monthly terms and yearly terms on purchase intention.

3. Methodology

In this study, an experiment is performed to test hypothesis H1. The survey instrument includes three sections: The first section had questions related to socioeconomic details such as personal income, education, and age of the participants to facilitate the examination of the effects of socioeconomic information of the participants on their intention to purchase. The second section contained questions to measure the participants' risk perception due to COVID-19 using the COVID-19 risk perception scale developed and validated by Dryhurst et al. (2020). The third section contained six endowment life insurance policies explicitly designed to elicit participants' intention to purchase using choice-based conjoint analysis.

3.1 Participants

One hundred sixty life insurance policyholders residing in Rajasthan, India, restricted to the age of 25 to 45 years, were randomly included in the study. The experiment was performed in the months of March and April 2022. The

reason for keeping 25 years as the lower limit is that a significant fraction of the Indian population below 25 years depends on their parents for their livelihood. Also, the average age of the women having their first child is 28 years (World Population Review, 2022). This indicates that the mean age when the population starts their family and has dependents is above 25 years.

Further, the maximum age of the participants is kept at 45 years because after the age of 45, the mortality rate is high, and the life expectancy is low. Accordingly, the findings of this age group will act as an outlier for the study. Also, we have chosen respondents between 25 to 45 years of age, as an individual's death probability increases substantially after 45 years. Figure 1 represents the probability of death in a population of different age groups in India (SRS-based Abridged Life Table, 2014-18). Considering the mortality risk reasonably similar for the 25 to 45-year-old age group, we overcome the need to change the premium prices for different age groups based on their mortality risk. This helps to perform experiments with the same choices for participants of different age groups.

Approximately 59% of our participants were male, and 41% were female. Most participants reported their marital status as "Married" (87%), and only 13% were "Single". Also, our sample varied based on the participants' educational background, with 64% being graduates, 31% being postgraduates, and only 5% holding a doctorate. The age of the participants included in the experiment was between 25 to 45 years, in which approximately 46% of the participants were of the age group 30-35 years, followed by the age group 35-40 years (30%), 25-30 years (15%) and 40-45 years (9%). Finally, 57% of our sample had an annual income between INR 0.5 million to 1.0 million and 43% with INR 1.0 million to 2.0 million.
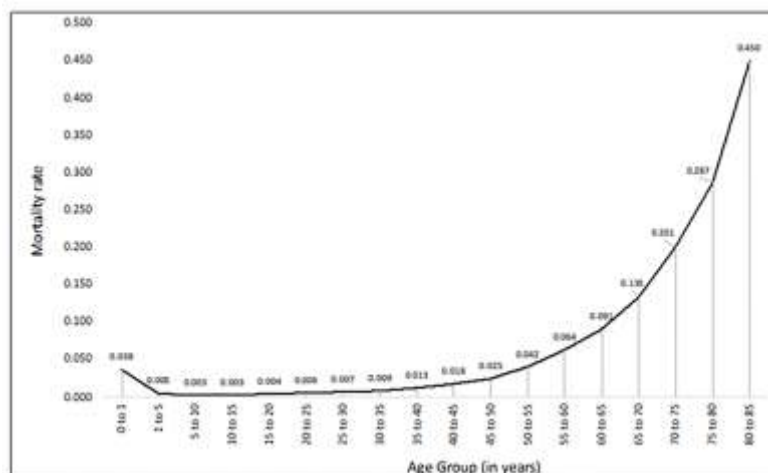
Figure 1. *Age Group Vs Mortality Rate*

3.2 Identification of endowment policy attributes and their levels

According to the Insurance Regulatory and Development Authority of India (IRDAI), "an endowment policy is a savings-linked insurance policy with a specific maturity date. Should an unfortunate event by way of death or disability occur during the period, the sum assured will be paid to the beneficiaries. On surviving the term, the maturity proceeds on the policy become payable" (IRDAI). Various insurance companies offer diverse endowment policies with distinct death and maturity benefits. This study focuses on basic endowment policies, which grant beneficiaries the sum assured upon the policyholder's premature death and a guaranteed maturity benefit if the policyholder outlives the maturity date and pays all premiums. This study focuses on endowment plans with fixed GMBs and negligible variable benefits to avoid additional effects from framing attributes with probabilistic returns on customers' perceived probabilities and benefit framing.

Based on the key attributes of the endowment life insurance policies available in the market today, the attributes included in the study are *premium price (PP), policy term(PT), and premium payment term(PPT)*. The premium price is one of the essential attributes of any life insurance policy. "Policy term" represents the duration the policy will be active, and "premium payment term" is the period for which the policyholder needs to pay the premium for the life insurance policy.

Each attribute can take on several selected levels based on the range of levels observed in today's endowment life insurance market. The two levels of PP, INR 50000 and INR 75000 each in yearly terms, were included in this study. Similarly, this study used two levels of PPT – 5 years and 7 years and PT – 10 years and 15 years to understand the framing effect better.

In 1989, Dar and Dodds discovered that the rate of return on an endowment plan significantly influences consumer

Table 1. Guaranteed Maturity Benefit

	Policy Term	Guaranteed Maturity Benefit
1.	10 years	Sum of <u>yearly benefits</u> calculated every year till policy term. The <u>yearly benefit</u> for a year is calculated as 9% of the total premium paid till that year
2.	15 years	Sum of <u>yearly benefits</u> calculated every year till policy term. The <u>yearly benefit</u> for a year is calculated as 10% of the total premium paid till that year

Table 2. Illustration of Guaranteed Maturity Benefit Calculation for the participants

Policy Year	Premium paid for the year	Total premium paid till date	Yearly Benefit= Guaranteed rate*sum of all premium paid
1.	30,000	30,000	0.09*30,000=2700
2.	30,000	60,000	0.09*60,000=5400
3.	30,000	90,000	0.09*90,000=8100
4.	30,000	1,20,000	0.09*1,20,000=10,800
5.	30,000	1,50,000	0.09*1,50,000=13,500
6.	0	1,50,000	0.09*1,50,000=13,500
7.	0	1,50,000	0.09*1,50,000=13,500
8.	0	1,50,000	0.09*1,50,000=13,500
9.	0	1,50,000	0.09*1,50,000=13,500
10.	0	1,50,000	0.09*1,50,000=13,500

purchasing decisions. One important feature of these plans is the guaranteed maturity benefit (GMB). Table 1 displays the GMB for policies of both terms. Table 2 illustrates the benefit for participants to understand the GMB calculation and estimate the lump sum they will receive at the end of a 10-year PT with an annual premium of Rs. 30000 paid for PPT of 5 years. We provided all participants with this illustration before asking them to rate the policy.

3.3 Calculating the monthly equivalent of the yearly premium price

To investigate premium price framing's impact on purchase intention, we presented premiums in monthly and yearly form. Monthly equivalents of yearly premiums were calculated using the "Time Value of Money (TVM)" concept rather than dividing yearly premiums by 12. TVM states that today's amount is worth more than the same amount in the future, but we disregarded inflation's impact. Using TVM to calculate monthly premiums makes both options theoretically equivalent, so informed participants view monthly payment options as equal to yearly equivalents in the control group.

Based on the TVM, the formula used to calculate the future value (FV) of a current asset (PV) after "n" periods, considering the rate of return "r" per period, is

$$FV = PV (1+r)^n \tag{Eq.1}$$

Equation 2 provides the formula to estimate the repeating monthly payment (A) equivalent to FV when payment is made at the beginning of each period,

$$A = FV \left[\frac{r/(1+r)}{(1+r)^n - 1} \right] \tag{Eq.2}$$

Substituting the value of FV from equation (1) into equation (2), we get

$$A = PV(1+r)^n \left[\frac{r/(1+r)}{(1+r)^n - 1} \right] \tag{Eq.3}$$

Using equation 3, we get A = INR 4270 (rounded from INR 4273) as a monthly premium for PV = INR 50000 yearly

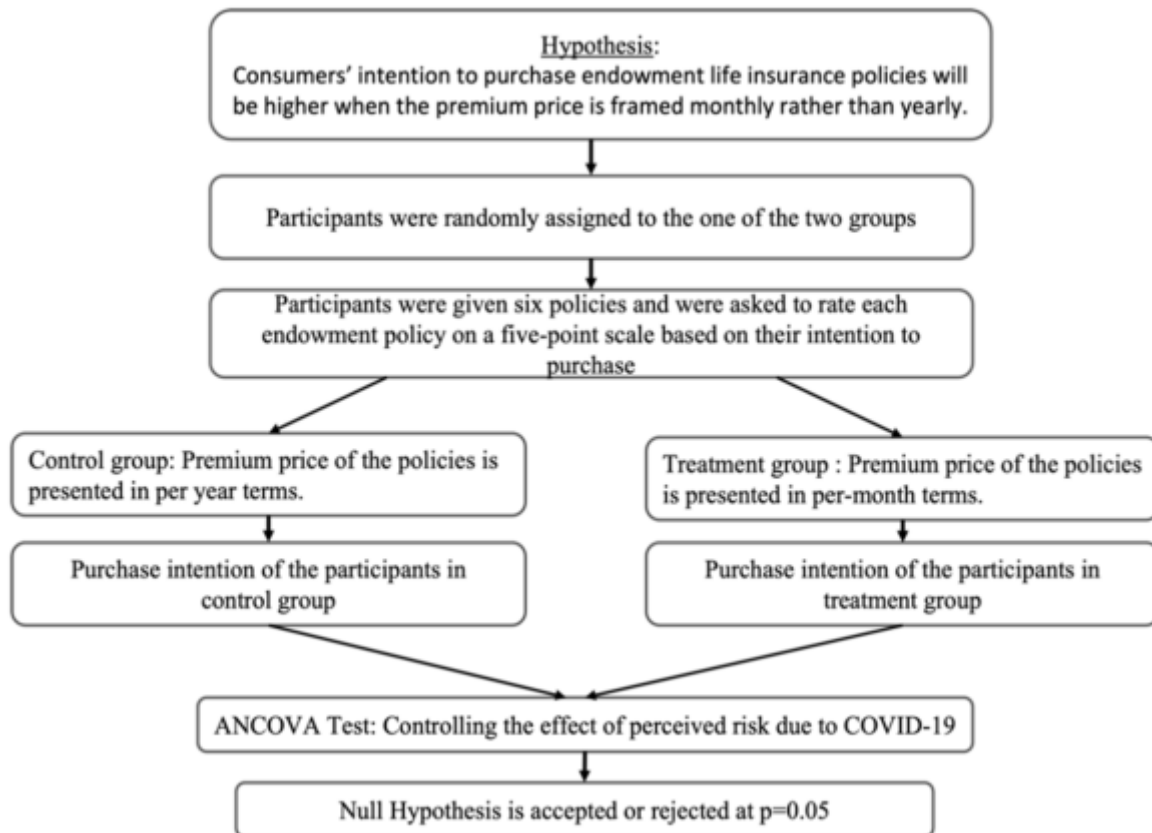**Figure 2. Flow diagram showing the steps involved in the experiment**

premium amount, n = 12 and r = 0.0046. Similarly, we get A = INR 6410 as a monthly premium amount corresponding to PV = INR 75000 yearly premium amount. In the equation above, "r" is calculated as 1/12 of the annual rate of return. The annual rate of return is fixed at 5.5 %, as this is the fixed deposit interest rate in India at the time of experimenting.

3.4 Experimental Design

We performed a between-subject experiment to examine the framing effect of premium prices on consumers' intention to purchase endowment life insurance policies. The between-subject experiment involves showing sets of endowment policies with premium prices framed in yearly terms to the control group and showing sets of endowment policies with premium prices framed in monthly terms to the treatment group.

We adopted the choice-based conjoint analysis method to elicit consumers' stated preference for the set of endowment life insurance policies with or without the framing effect. The conjoint analysis involves ranking or rating the hypothetical alternatives of the product or services comprising different attributes and their levels (Green & Srinivasan, 1978).

In this study, endowment life insurance policies with different combinations of attribute levels are presented to the participants. They were asked to rate each choice on a five-point scale starting from 1 (would definitely not buy it) to 5 (would definitely buy it). Participants were randomly assigned to two experimental groups: - the control and the treatment group. Also, in an experiment to avoid the ordering effect, choices are presented in different orders to the participants. The control and treatment groups in the experiment are presented with choices in which premium prices are framed yearly and monthly, respectively. Figure 2 shows the flow diagram illustrating the steps involved in the experiment to test H1.

3.5 Designing of choice sets

The attributes and their levels included in *the design of choice sets for the control group* are shown in Table 3. With three attributes, each of two levels, a factorial design is constructed, giving rise to eight choices.

Out of the eight choices, we excluded two in which the PPT is more than 50% of the PT. When the PPT is more than 50% of the PT, the GMB paid at maturity comes to be more than the sum assured. Hence, the choices with a PT of 10 years and a PPT of 7 years are dropped from our experimental choices. As a result, the control group is presented with six

Table 3. Attributes and their levels for the control group

Level	Premium Price	Policy Term	Premium Payment Term
1.	Yearly payment of INR 50000	10 years	5 years
2.	Yearly payment of INR 75000	15 years	7 years

Table 4. The final six choices presented to the participants in the control group

1	INR 50000 premium price paid for 5 years, when the policy term is 10 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **9%** of the total premium paid till that year
2	INR 50000 premium price paid for 5 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year
3	INR 50000 premium price paid for 7 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year
4	INR 75000 premium price paid for 5 years, when the policy term is 10 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **9%** of the total premium paid till that year
5	INR 75000 premium price paid for 5 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year
6	INR 75000 premium price paid for 7 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year

experimental choices in experimental design. The final six choices assigned randomly to the control group are shown in Table 4, and participants were asked to indicate their intention to purchase on a five-point Likert scale.

For designing the choice set for the treatment group, the attributes and their levels included are shown in Table 5. Similar to the above, 2^3 factorial designs with three attributes in each of the two levels are used to generate eight choice combinations, out of which two choices were excluded for simplicity, as discussed in the above paragraph.

Based on the PAD strategy proposed by Gourville (1998), the premium price is framed in monthly terms to test the effect of framing of premium price on consumers' purchase intention for the endowment life insurance policy under consideration. The final six choices randomly assigned to the participants in the treatment group are shown in Table 6,

and participants are asked to indicate their intention to purchase on a five-point Likert scale.

3.6 Control Variable

The COVID-19 pandemic has caused significant psychological effects that might have triggered in individuals the fear of themselves or their loved ones getting infected by a coronavirus. Pappas et al. (2009) defined fear as a "normal reaction to an evolving threat, preparing the individual, both physically and mentally, for an acute response to possible harm," thus, the fear of getting infected by a coronavirus, which is invisible, imminent, and transmissible, may influence individuals' rational thinking and their perception towards the risk due to COVID-19. Qian (2021) identified a significant effect of COVID-19 on per capita insurance revenue for life insurance in China.

Table 5. Attributes and their levels for the treatment group

Level	Premium Price	Policy Term	Premium Payment Term
1.	Monthly payment of INR 4270	10 years	5 years
2.	Monthly payment of INR 6410	15 years	7 years

Table 6. The final six choices presented to the participants in the treatment group

1	INR 4270 premium price paid for 5 years, when the policy term is 10 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **9%** of the total premium paid till that year
2	INR 4270 premium price paid for 5 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year
3	INR 4270 premium price paid for 7 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year
4	INR 6410 premium price paid for 5 years, when the policy term is 10 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **9%** of the total premium paid till that year
5	INR 6410 premium price paid for 5 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year
6	INR 6410 premium price paid for 7 years, when the policy term is 15 years, GMB is the Sum of the yearly benefits calculated every year till the policy term. The yearly benefit for a year is calculated as **10%** of the total premium paid till that year

As this experiment is performed in India after citizens have experienced the first and second waves of COVID-19, it is essential to measure and control the effect of risk perception due to COVID-19 on customers' intention to purchase endowment life insurance policies. To achieve this, we measure the level of perceived risk due to COVID-19 in the participants using the risk perception scale developed and validated by Dryhurst et al. (2020).

4. Results

This section discusses the method and results of the experiment performed to test the hypotheses empirically. Participants were randomly assigned to each of the two experimental groups. Participants in each group were asked to imagine that they were planning to purchase an endowment life insurance policy and have shortlisted six endowment policies with different combinations of attributes. Participants were asked to indicate their intention to purchase on a five-point Likert scale for each of the six choices. Of the total 160 participants who participated in the experiment, responses from 9 participants were removed as they indicated no intention to purchase an endowment life insurance policy by rating "1" on the purchase intention scale of 1 to 5.

The results from two-way ANCOVA (premium price - yearly, monthly, income - low, high) while controlling for the effect of perceived risk due to COVID-19 are presented in Table 7. The corrected model, encompassing all factors, is highly significant (p=.001), explaining a noteworthy portion of PI's variance ($\eta^2 = 0.149$). We have considered the significance level as 0.05 to analyse the results. The intercept, signifying the baseline value when all predictors are zero, is also highly significant (p=.001), with a substantial influence on PI ($\eta^2 = 0.532$).

Considering individual predictors, premium price exhibits a significant effect (p=.001) with a moderate impact on PI ($F_{1,146} = 21.05$, $\eta^2 = 0.126$). In contrast, the income effect is not statistically significant (p = 0.578), contributing only a small portion to PI's variance ($F_{1,146} = 0.311$, $\eta^2 = 0.002$). Covid's impact is non-significant (p = 0.839), and the interaction between premium price and income is also non-significant (p = 0.189), with a limited effect on PI ($F_{1,146} = 1.74$, $\eta^2 = 0.012$).

The model emphasises the premium price importance, supported by a high F-statistic ($F_{1,146} = 21.048$) and a substantial mean square value (10.035), indicating its robust influence. In contrast, income and the interaction term (premium price*income) lack statistical significance, suggesting a minor role in explaining PI variations. The relatively low F-statistic ($F_{1,146} = 0.311$) and mean square value (0.148) for income shows its limited impact. The interaction term, with an F-statistic of 1.743, modestly contributes to PI variability.

This indicates that the ANCOVA results are consistent with hypothesis H1, in which we hypothesised that there is a significant increase in consumers' intention to purchase the policy when the premium price is conveyed in monthly terms as against when conveyed in yearly terms by adjusting for the covariate "Risk perception due to COVID-19".

Table 7. Two-Way ANCOVA results with PI as dependent, Premium and Income as independent and Covid as control variables, respectively

Source	Type III Sum of Squares	df	Mean Square	F	Significance (p)	Partial Eta Squared (η^2)
Corrected Model	12.190	4	3.047	6.392	0	0.149
Intercept	79.086	1	79.086	165.878	0	0.532
Covid	0.02	1	0.02	0.041	0.839	0
Premium	10.035	1	10.035	21.048	0	0.126
Income	0.148	1	0.148	0.311	0.578	0.002
Premium * Income	0.831	1	0.831	1.743	0.189	0.012
Error	69.609	146	0.477			
Total	1442.54	151				

As discussed before, the liquidity constraint can be one of the reasons for participants' higher intention to purchase the endowment policy with a monthly premium option compared to a policy with a yearly premium option. Studies in the literature demonstrated that consumers' income level significantly impacts their intention to purchase a life insurance policy (Kakar & Shukla, 2010; Lee et al., 2018).

Now, we examine our second hypothesis (H2), which aims to determine whether participants' income moderates the framing effect on purchase intention. To test the hypothesis, we categorised the participants into two income levels – low (INR 0.5 million to 1.0 million) and high (INR 1.0 to 2.0 million). The establishment of these income thresholds was based on the annual premium amount, and the consideration of how manageable and financially impactful premium payments are for individuals. It's important to note that this categorisation method differs from the conventional income classification approach based on overall financial capacity and lifestyle factors.

The ANCOVA results discussed above do not reveal the interaction effect of premium price across low and high-income groups. Therefore, we performed a data split analysis across two income groups. The results for the low-income group (Table 8) demonstrate a significant impact

corrected model, including COVID, premium price, and income as predictors, on PI, with a type III sum of squares of 10.314 ($F_{1,83}$ = 10.630, p < 0.001, η^2 = .204). COVID exhibited a non-significant effect, while premium price significantly influenced PI ($F_{1,83}$ = 16.119, p < 0.001, h^2 = 0163 Income and the interaction term (Premium * Income) did not contribute significantly.

The findings for the high-income group, as presented in Table 9, reveal a statistically significant impact of the corrected model on PI with type III sum of squares of 3.537 ($F_{1,62}$ = 3.963, p = 0.024, h^2 = 0.113 Notably, the intercept, represented by the substantial sum of squares (42.158), significantly influences PI ($F_{1,62}$ = 94.482, p < 0.001, h^2 = 0.604 underscoring its predictive value when all predictors are zero. Examining individual predictors, COVID's effect was insignificant ($F_{1,62}$ = 2.774, p = 0.101, h^2 = 0.043. Conversely, premium price exhibited a significant influence on PI ($F_{1,62}$ = 5.625, p = 0.021, h^2 = 0.083 implying its substantial contribution to explaining variance in the dependent variable. However, the effects of income and the interaction term (Premium * Income) were not statistically significant (p = 0), indicating their limited contributions.

Table 8. Two-Way ANCOVA results with PI as dependent, Premium and Income as independent and Covid as control variables respectively for low-income group

Source	Type III Sum of Squares	df	Mean Square	F	Significance (p)	Partial Eta Squared (η^2)
Corrected Model	10.314[b]	2	5.157	10.63	0	0.204
Intercept	38.546	1	38.546	79.453	0	0.489
Covid	0.46	1	0.46	0.949	0.333	0.011
Premium	7.82	1	7.82	16.119	0	0.163
Income	0	0	.	.	.	0
Premium * Income	0	0	.	.	.	0
Error	40.266	83	0.485			
Total	820.805	86				

Table 9. Two-Way ANCOVA results with PI as dependent, Premium and Income as independent and Covid as control variables respectively for the high-income group

Source	Type III Sum of Squares	df	Mean Square	F	Significance (p)	Partial Eta Squared (η^2)
Corrected Model	3.537[b]	2	1.768	3.963	0.024	0.113
Intercept	42.158	1	42.158	94.482	0	0.604
Covid	1.238	1	1.238	2.774	0.101	0.043
Premium Price	2.51	1	2.51	5.625	0.021	0.083
Income	0	0	.	.	.	0
Premium * Income	0	0	.	.	.	0
Error	27.664	62	0.446			
Total	621.734	65				
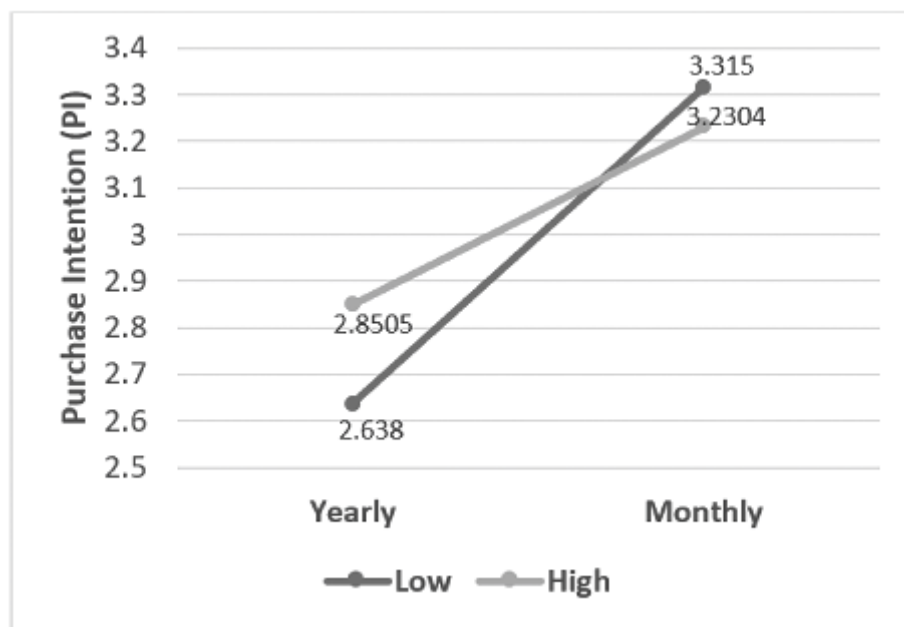
Figure 3. Interaction effect between income and premium price on purchase intention (PI)

Figure 2 illustrates the estimated marginal means across two levels of premium price and income, highlighting the interaction effect between income and premium price on PI. The graph demonstrates the significant impact of premium price on PI. In contrast, neither income nor the interaction between premium price and income exhibits a statistically significant effect.

5. Discussion

The findings indicate that monthly premiums positively impact the intention to purchase ELIPs, which could be as monthly premium payments ease liquidity concerns without disrupting regular expenses, thus aligning with the conclusions of previous studies (Bauchet & Morduch, 2019). Additionally, monthly premium framing may reduce the *perceived costs* of endowment life insurance policies as the perceived costs of these policies depend on expected benefits (life cover and savings components). For participants aged 25-45 years with low mortality rates included in this study, the perceived cost of a policy is higher than the expected benefits.

Also, premium prices framed monthly can lead to lower perceived *opportunity costs* (as explained by Spiller (2011)) compared to yearly pricing. Consumers may have several expenses similar in magnitude to the monthly premium price, while fewer expenses are comparable to yearly premiums. Monthly premiums seem more viable for customers since they can continue with similar expenses by sacrificing only one or two. In contrast, yearly premiums might feel more restrictive, requiring greater compromise on other expenditures.

A *lack of self-discipline* to save money every month can also lead the participants to select the monthly framed premium price. Individuals might think that it is difficult to pay the yearly premium as they will not be able to save monthly on their own, and thus, the burden of paying the premium in lumpsum at the end of the year will be onerous for them. Rabbani (2020) found that self-discipline plays a significant role in purchasing cash value life insurance (CVLI).

Another factor could be consumers' *effort and time* in calculating the total premium paid. Studies in literature have found that consumers often use heuristics to do calculations like multiplication or addition, resulting in a deviation from the expected value (Morwitz et al., 1998; Jain et al., 2020). This study suggests that life insurance companies can encourage consumers to purchase the endowment policy by framing premiums in monthly terms, ultimately leading to better product design.

6. Conclusion

The study investigated how presenting endowment life insurance policy premium prices in a context affects consumers' intention to purchase them, controlling for the potential influence of COVID-19 risk perception on participants' decision-making processes. The study's results supported our first hypothesis, indicating that consumers prefer paying a monthly premium over yearly while purchasing an endowment life insurance policy. However, we found no notable difference in the mean purchase intention between the low-income group (with liquidity constraints) and the high-income group (without liquidity constraints). As a result, our second hypothesis that income significantly moderates the relationship between the framing effect and purchase intention cannot be accepted. This implies that while income can account for the framing effect on purchase intention, additional factors also shape individuals' framing behaviour, which needs further investigation. Regulators and policymakers can use this insight to enforce guidelines that ensure a clear and transparent presentation of premium prices.

The study's key theoretical contribution is that it enhances our understanding of consumer behaviour in the context of life insurance marketing. The study delves deep into whether framing premiums of endowment life insurance policies affect consumers' purchase intentions. This exploration is grounded in the principles of mental accounting, offering a novel perspective on how consumers perceive and evaluate life insurance products, especially endowment life insurance policies, based on the presentation of their premium prices. In terms of practical implications, the study suggests that clear and transparent communication of premium options is crucial for insurance companies. Insurers should present their products straightforwardly, emphasising the future value of premiums. This promotes informed decision-making, increasing ELIPs' profitability over traditional savings products and fostering consumer trust, which is essential in the insurance industry. The study's findings also have significant implications for insurance regulatory bodies. Firstly, regulators should consider providing guidelines encouraging insurance companies to offer monthly premium payment options. Enforcing regulations that mandate the transparent presentation of premium options is crucial. Secondly, regulators can stipulate standardised product disclosure practices and the use of comparative tools to empower consumers to make well-informed choices.

However, this research also has some limitations. Firstly, participants' ability to rate the six choices in an experiment depends on their computation skills, which can affect their purchase intention. To reduce cognitive effort, future research could use pairwise comparisons to test the study's findings. Moreover, the current study did not examine the

impact of benefit framing on purchase intention. Future research could investigate the main and interaction effects of benefit and premium price framing. Lastly, researchers could explore the moderating effect of financial literacy on the causal relationship between premium price framing and purchase intention.

References

Bambauer-Sachse, S., & Mangold, S. C. (2009). Are temporally reframed prices really advantageous? A more detailed look at the processes triggered by temporally reframed prices. *Journal of Retailing and Consumer Services*, *16*(6), 451-457. https://doi.org/ 10.1016/ j.jretconser.2009.06.005

Bauchet, J., & Morduch, J. (2019). Paying in pieces: A natural experiment on demand for life insurance under different payment schemes. *Journal of Development Economics*, *139*, 69-77. https://doi.org/10.1016 /j.jdeveco.2019.02.002

Botzen, W. W., de Boer, J., & Terpstra, T. (2013). Framing of risk and preferences for annual and multi-year flood insurance. *Journal of economic psychology*, *39*, 357-375. https://doi.org/10.1016 /j.joep.2013.05.007

Brown, J. R., Kling, J. R., Mullainathan, S., & Wrobel, M. V. (2013). Framing lifetime income. *The Journal of Retirement*, *1*(1), 27-37. https://ssrn.com/abstract= 3431847

Burkovskaya, A., Teperski, A., & Atalay, K. (2022). Framing and insurance choices. *Journal of Risk and Insurance*, 89(2), 311-337. https://doi.org/10.1111 /jori.12362

Camerer, C. F., & Kunreuther, H. (1989). Decision processes for low probability events: Policy implications. *Journal of policy analysis and management*, *8*(4), 565-592. https://doi.org/ 10.2307/3325045

Spiller, S. A. (2011). Opportunity cost consideration. *Journal of Consumer Research*, 38(4), 595-610.

SRS-based Abridged Life Table 2014-18. https:// censusindia.gov.in/nada/index.php/catalog/42517

Dar, A., & Dodds, C. (1989). Interest rates, the emergency fund hypothesis and saving through endowment policies: some empirical evidence for the UK. *Journal of Risk and Insurance*, 415–433. https://doi.org/ 10.2307/253166

Dryhurst, S., Schneider, C. R., Kerr, J., Freeman, A. L., Recchia, G., Van Der Bles, A. M., ... & Van Der Linden, S. (2020). Risk perceptions of COVID-19 around the world. In COVID-19 (pp. 162-174). Routledge. https://doi.org/10.1080/13669877.2020.1758193

Gourville, J. T. (1998). Pennies-a-day: The effect of temporal reframing on transaction evaluation. *Journal of Consumer Research*, *24*(4), 395-408. https://doi.org/ 10.1086/209517

Gourville, J. T. (1999). The effect of implicit versus explicit comparisons on temporal pricing claims. *Marketing Letters*, *10*(2), 113-124. https://www.jstor.org/ stable/40216526

Gourville, J. T. (2003). The effects of monetary magnitude and level of aggregation on the temporal framing of price. *Marketing Letters*, *14*(2), 125-135. https:// www.jstor.org/ stable/40216476

Green, P. E., & Srinivasan, V. (1978). Conjoint analysis in consumer research: issues and outlook. *Journal of Consumer Research*, *5*(2), 103-123. https:// www.jstor.org/ stable/2489001

Huber, C., Gatzert, N., & Schmeiser, H. (2015). How does price presentation influence consumer choice? The case of life insurance products. *Journal of Risk and Insurance*, *82*(2), 401-432. https://www.jstor.org/ stable/26482969

Iacobucci, D., Posavac, S. S., Kardes, F. R., Schneider, M. J., & Popovich, D. L. (2015). Toward a more nuanced understanding of the statistical properties of a median split. *Journal of Consumer Psychology*, 25(4), 652-665. https://doi.org/10.1016/j.jcps.2014.12.002

IRDAI. Consumer Education Website. https://www. policyholder.gov.in/what_life_insurance_to_buy.aspx

IRDAI Annual Report, (2020). https://irdai.gov.in/annual-reports

Jain, G., Gaeth, G. J., Nayakankuppam, D., & Levin, I. P. (2020). Revisiting attribute framing: The impact of number roundedness on framing. *Organisational Behavior and Human Decision Processes*, 161, 109-119. https://doi.org/ 10.1016/j.obhdp. 2020.04.006

Johnson, E. J., Hershey, J., Meszaros, J., & Kunreuther, H. (1993). Framing, probability distortions, and insurance decisions. *Journal of Risk and Uncertainty*, *7*(1), 35-51. https://www.jstor.org/ stable/41760693

Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In Handbook of the fundamentals of financial decision making: Part I (pp. 99-127).

Kakar, P., & Shukla, R. (2010). The determinants of demand for life insurance in an emerging economy—India. Margin: *The Journal of Applied Economic Research*, 4(1), 4 9– 7 7. https://doi.org/10.1177/ 097380100900 400103

Lee, H.-S., Chong, S.-C., & Sia, B.-K. (2018). Influence of secondary and tertiary literacy on life insurance consumption: Case of selected ASEAN countries. The Geneva Papers on Risk and Insurance-Issues and Practice, 43(1), 1– 15. https://doi.org/10.1057/s41288-017-0050-7

Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. *Organisational behaviour and human decision processes*, 76(2), 149-188. https://doi.org/10.1006/obhd.1998.2804

Morwitz, V. G., Greenleaf, E. A., & Johnson, E. J. (1998). Divide and prosper: Consumers' reactions to partitioned prices. *Journal of Marketing Research,* 35(4), 453-463. https://doi.org/10.1177/002224379803500404

Pappas, G., Kiriaze, I. J., Giannakis, P., & Falagas, M. E. (2009). Psychosocial consequences of infectious diseases. *Clinical microbiology and infection*, 15(8), 743-747. https://doi.org/10.1111/j.1469-0691. 2009.02947.x

Pincus, J., Hopewood, K., & Mills, R. (2017). Framing the decision to buy long-term care insurance: losses and gains in the context of statistical and narrative evidence. *Journal of Financial Services Marketing*, 22(1), 33–40. https://doi.org/10.1057/s41264-017-0019-4

Qian, X. (2021). The impact of COVID-19 pandemic on insurance demand: the case of China. *The European Journal of Health Economics*, 22(7), 1017–1024. https://doi.org/10.1007/s10198-021-01344-7

Rabbani, A. G. (2020). Cash value life insurance ownership among young adults: The role of self-discipline and risk tolerance. *Journal of Behavioral and Experimental Finance*, 27, 100385. https://doi.org/10.1016/ j.jbef.2020.100385

Rutherford, A. (2011). ANOVA and ANCOVA: a GLM approach. John Wiley & Sons. https://doi.org/10.1002/ 9781118491683

Salovey, P., & Williams-Piehota, P. (2004). Field experiments in social psychology: Message framing and the promotion of health-protective behaviours. *American Behavioral Scientist*, 47(5), 488-505. https://doi.org/10.1177/0002764203259293

Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science*, 4(3), 199–214. https://doi.org/1 0.1287/mksc.4.3.199

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453-458. https://doi.org/10.1126/ science.7455683

World Population Review (2022). https:// worldpopulationreview.com

Yin, W., & Dubinsky, A. J. (2004). Framing effects of coupon face value on coupon redemption: A literature review with propositions. *Journal of Marketing Management*, 20(7-8), 877-896. https://doi.org/ 10.1362/0267257041838764

Zheng, J. (2020). Optimal insurance design under narrow framing. *Journal of Economic Behavior & Organization*, pp. 180, 596–607. https://doi.org/ 10.1016/j.jebo.2020.05.020

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Time Crunch Chronicles: Investigating Time Pressure in Indian Working Mothers Using a Moderated Mediation Framework

Swati K Shetye
Assistant Professor
Ramanand Arya DAV College (Autonomous)
Mumbai,
Research Scholar,
Symbiosis International (Deemed) University
Lavale, Mulshi, Pune, Maharashtra, India
Email id: researchswatis@gmail.com, writetoswatis@gmail.com

Dr. Anugamini Srivastava
Assistant Professor,
Symbiosis Institute of Business Management – Pune
Symbiosis International (Deemed) University, Lavale
Mulshi, Pune, Maharashtra, India,
Email id: srivastavaanu0@gmail.com,
anugaminipriyasrivastava@sibmpune.edu.in

Dr. Keyur Nayak
Director, University of Mumbai`s Garware Institute of
Career Education and Development,
Vidya Nagari, Kalina, Santacruz East,
Mumbai, Maharashtra
Email id: keyurdhuya@gmail.com

Abstract

With the objective of understanding the interplay between time pressure and the intention to leave among working mothers in India, the present study articulated the theoretical foundation of the concepts of Time Poverty and the Need to Belong Theory. Employing convenience sampling, data was collected from 408 participants and analysed using structural equation modelling and the Hayes macro process. The empirical findings of the study confirm the positive association of time pressure with the intention to leave, juxtaposed with the negative association with mental health and work-life balance. Adding nuance to the relationships, the study also identifies partial mediation, wherein mental health and work-life balance mediate between time pressure and the intention to leave. Delving deeper into the complex associations, the study explains the moderating role of supervisor support in the mediated linkages. This novel insight suggests that concrete supervisor support can potentially reshape the association between time pressure and the intention to leave. The study, unique in its approach, pioneers an exploration into time pressure, mental health, work-life balance, intention to leave, and supervisor support among working mothers in the Indian context. The outcomes of this study provide essential guidance for policymakers, shedding light on the importance of understanding time pressure among Indian working mothers and considering supervisor support in developing strategies to mitigate the impact of time pressure on the intention to leave among working mothers in India.

Keywords: Time pressure, Mental health, Work life balance, Intention to leave, Supervisor support, Need to Belong

1. Introduction

In a modern, fast-paced world, working mothers find themselves at the intersection of professional ambitions and domestic obligations (Goldin, 2022). Among these, Indian working mothers are facing unique challenges associated with gender norms rooted in the patriarchal system (Akanji et al., 2022; Mazumdar et al., 2022). They are obligated to be efficient employees at the office, simultaneously being a primary caregiver of their children. This struggle of balancing dual responsibilities leads to facing one of the most pressing challenges – time poverty – a concept that explains the insufficiency of time availability to fulfil the role responsibilities (Hyde et al., 2020; Vickery, 1977). Time pressure (TP) is observed to have an inverse association with job satisfaction, work engagement and mental health, and, ultimately, results in the intention to leave the jobs (Craig et al., 2020; Hewitt et al., 2022; Kunzelmann & Rigotti, 2021). Parallel yet inversely applicable to the constraints of time poverty, the need to belong - emerges as a key theoretical lens for understanding how social support in the workplace can buffer the adverse effects of time pressure (Baumeister & Leary, 1995). Belongingness fostered through strong interpersonal relationships and workplace support improves mental health, work engagement, and employee retention (Haldorai et al., 2020; Innstrand & Grødal, 2022).

The present study is built on two concepts: Time Poverty (Vickery, 1977) and the Need to Belong (Baumeister & Leary, 1995). While time poverty paves the linkages of working mothers' intention to leave, the need to belong theory directs towards factors that moderate these linkages. Time poverty among working mothers limits their participation and growth in economic activities (Hyde et al., 2020). They feel time pressured/stressed, which generates linkages that lead to leave intentions. Considering this, researchers have highlighted the need to explore the impact of time pressure on working mothers (Giurge et al., 2020; Hyde et al., 2020). On the other hand, an individual's sense of belonging positively determines whether they continue their jobs (Innstrand & Grødal, 2022; Jing & Yan, 2022). When individuals receive support at the workplace, they perceive themselves as accepted in the group (Baumeister & Leary, 1995), which reduces feelings of ostracism and turnover intentions (Innstrand & Grødal, 2022; Jing & Yan, 2022). Changes in technology, social mobility, and shifts in family structure have generated a struggle for a sense of belonging (Baumeister & Robson, 2021). This struggle is prominent for the minor sections in the workplace (such as working mothers) (Allen et al., 2021). Belongingness is fundamentally driven by supervisor support at the workplace (Baumeister & Leary, 1995). Caminong et al. (2023) observed that supervisor support that generates belongingness applies more to females than males. This dual influence of time poverty and the need for belonging presents a compelling opportunity to examine how time pressure impacts working mothers' leave intention and how supervisor support may mitigate this impact.

While prior research has highlighted the presence of time pressure among women (Craig et al., 2020; Hyde et al., 2020; Mezzadri & Majumder, 2022) and the protective role of supervisor support (Caminong et al., 2023; Sargent et al., 2022; Veli Korkmaz et al., 2022), gaps remain in understanding the complex interplay between these factors. Additionally, there is a lack of research examining the mediating roles of mental health and work-life balance in the relationship between time pressure and intention to leave, as well as the moderating role of supervisor support in these mediated relationships. The present study aims to address these gaps by investigating the following key questions: How does time pressure influence the intention to leave among Indian working mothers? To what extent do mental health and work-life balance mediate this relationship? Finally, how does the supervisor support moderate the mediated effects of time pressure on the intention to leave? The hypothesised model of the association of the studied variables is illustrated in Figure 1.

Adopting a moderated mediation framework, the present study contributes to the literature by integrating the concepts of *time poverty* and the *need to belong theory* to explore the nuanced dynamics affecting Indian working mothers. By examining these relationships within the cultural and societal context of India, this study seeks to provide actionable insights for organisations to better support working mothers, reduce their turnover intentions, and promote a healthier mental state and work-life equilibrium. Ultimately, the findings aim to contribute to policy formulation and organisational strategies tailored to address the unique challenges faced by Indian working mothers.

2. Literature Review

2.1 Time poverty amongst working mothers and their intention to leave

Time poverty refers to the chronic scarcity of discretionary time — the time available after fulfilling essential obligations such as sleep, paid work, and unpaid

work—needed for the enhancement of social and human capital (Goodin et al., 2005; Vickery, 1977). While economic poverty has long been a measure of disadvantage, Vickery (1977) argued that assessing deprivation solely in monetary terms is insufficient, as time is an equally critical resource. Considering the growing recognition of analysing time as a poverty indicator, the research in the global context has made significant progress (Artazcoz et al., 2024; Carmichael et al., 2024; Craig et al., 2020; Hewitt et al., 2022; Torabi et al., 2025), however, in the Indian context with the exception of few (e.g. (Irani & Vemireddy, 2020; Mezzadri & Majumder, 2022)), studies remain limited and insufficient (N. Singh et al., 2024).

Time poverty is more prevalent among women, particularly working mothers, due to their additional responsibilities outside of work (Giurge et al., 2020; Goodin et al., 2005; Hyde et al., 2020). In addition to their professional duties, working mothers must allocate time to childcare responsibilities. Their constrained availability of discretionary time not only alleviates stress and mental fatigue but also leads to structural workplace disadvantages, where they are often perceived as less competent and consequently face penalties in recruitment, promotions, and developmental opportunities(Ishizuka, 2021).

Although there is extensive research in the Western context that claims the presence of time pressure among mothers, which explains how it adversely impacts their mental health (Limbers et al., 2020), physical health (Hewitt et al., 2022), and career progression (Hyde et al., 2020), the research on time poverty among Indian working mothers remains scarce, necessitating further investigation into its applicability in culturally distinct settings. Giurge et al. (2020) highlighted that among developing countries, Indian women spend more time doing unpaid work than African women, portraying the significant lack of leisure time experienced by Indian women. Given that Indian working mothers navigate additional socio-cultural constraints, such as deep-rooted gender norms and a patriarchal family structure that places primary caregiving responsibilities on women (A. Singh et al., 2022; Tayal & Paul, 2021), their experience of time poverty and its consequences may be more pronounced than in Western contexts. This gap in research necessitates an in-depth exploration of how time poverty affects the mental health and career trajectories of Indian working mothers, particularly in the context of their intention to leave the workforce.

H1: Time pressure is positively associated with intention to leave (among working mothers)

2.2 Mental health as a mediator

The prevalence of time pressure among working mothers is a common phenomenon (Craig et al., 2020; Ruppanner et al., 2019). Research suggests that persistent parental time pressure impacts both physical and mental health (Giurge et al., 2020); furthermore, if it is left unaddressed, it may lead to depression (Roxburgh, 2002). Ruppanner et al. (2019) identified a significant gender gap in mental health imbalance resulting from time pressure after the birth of a second child. Despite the assumed increase in parenting efficacy with the birth of a second child, the study found that time pressure among working mothers was elevated instead of decreasing. In contrast, no such elevation was observed among fathers. This positive relationship between time pressure and mental health imbalance is also observed to be reciprocal: as time pressure increases, mental health imbalances increase too, making it more challenging for individuals to manage their time effectively and perpetuating a cycle of escalating time pressure (Hewitt et al., 2022).

An individual's mental health status directly influences decision-making abilities (WHO, 2022). Both directly and through mediation, mental health affects the intention to leave of employees', especially those working in demanding industries (Song et al., 2021). Working mothers, whether in demanding or non-demanding industries, often experience mental health issues as they are obligated to fulfil the demands of their jobs along with childcare responsibilities (Ruppanner et al., 2019). In Western countries, although the societal structure promotes gender equality, the gender gap in parenting time pressure is visible since the dependency of a child on the mother is universal and unaffected by gender-based division of household responsibilities(Hewitt et al., 2022).

Due to the patriarchal nature of the Indian family system, which is deeply ingrained in its social norms, gender equality in the division of domestic and parenting responsibilities varies significantly across the nation (Mazumdar et al., 2022). Another feature of the Indian family system is its family-oriented culture. According to Craig et al. (2020), in cultures with a stronger emphasis on family, mothers experience greater time pressure. Consequently, it is natural that working mothers in India, facing time pressure, encounter mental health issues that

influence their intention to leave. Researchers have emphasised the importance of studying such associations primarily within this specific social and demographic group (Giurge et al., 2020). However, research on this association is limited to this demography. Therefore, this study hypothesises:

H2a: Time pressure is negatively associated with mental health

H2b: Mental health is negatively associated with intention to leave

H2c: Mental health mediates the relationship between time pressure and the intention to leave

2.3 Work-life balance as a mediator

Work-life balance is the satisfaction derived from achieving equilibrium between personal and professional life. When individuals effectively allocate their time among various life domains, they achieve balance (Kirchmeyer, 2000). However, another perspective challenges the notion of equal time distribution, suggesting that satisfaction with work-life balance is contingent upon individual choices regarding the allocation of time among different life factors (Brough et al., 2020). Despite these differing viewpoints on equal versus subjective distribution, both perspectives define work-life balance based on allocating energy, commitment, and, primarily, time.

Work-life balance research has garnered significant attention, particularly since World War II, coinciding with the increasing participation of women in the labour force (Roberts, 2007). Kellher et al. (2019) noted a shift in work-life balance research towards dual-working couples, with a predominant focus on working mothers emerging in the late 1970s. The challenges faced by working mothers in maintaining work-life balance were exacerbated during the pandemic, especially with the widespread adoption of work-from-home arrangements (Shirmohammadi et al., 2022). Researchers have identified gender disparities between working mothers and fathers regarding factors affecting work-life balance, including workspace settings, technostress, domestic workload, and childcare responsibilities during the pandemic period (Alon et al., 2020; Del Boca et al., 2020; Feng & Savani, 2020; Shirmohammadi et al., 2022). Working mothers had to pay the motherhood penalty, while fathers were given ascendancy, assuming their primary responsibility was towards their job (Ishizuka, 2021; Shirmohammadi et al.,

2022). Since schools and daycare facilities were unavailable, mothers performed the mothering tasks of supervisor, caregiver and teacher, along with their jobs (Ishizuka, 2021; Shirmohammadi et al., 2022). These added responsibilities in the work-from-home setting inflated working mothers' time pressure, affecting their work-life balance. Such affected work-life balance can directly or through mediation lead to the intention to leave (Syuzairi et al., 2023). This impact was visible in the attrition pattern of women during the pandemic, as handling multiple roles led to the turnover cognition of working mothers (Lawson et al., 2023). By the time working mothers fit into work-from-home settings, the pandemic's restrictions were lifted, and organisations were returning to the office setup. This move has disrupted the routine of working mothers, causing their intention to leave concerns once more (Aravind, 2023). The concern of the association of work-life balance and intention to leave is a well-researched area; however, the impact of affected work-life balance on intention to leave caused due to time pressure amongst Indian working mothers in the restructuring of workplaces setting is less attempted, yet essential to study. Considering this, the present study proposes the following hypothesis:

H3a: Time pressure is negatively associated with work-life balance

H3b: Work-life balance is negatively associated with intention to leave

H3c: Work-life balance mediates the relationship between time pressure and intention to leave

2.4 Moderation of supervisor support rooted through the need to belong theory

The need to belong theory proposed by Baumeister and Leary (1995) posits that it is a fundamental need of humans to form and maintain strong and stable interpersonal relationships, which generates a feeling of belonging. This feeling has a substantial impact on an individual's emotional pattern and thought process. Sense of belongingness has a positive association with work engagement, organisational commitment and mental health (Haldorai et al., 2020; Innstrand & Grødal, 2022) and a negative association with leave intentions and lowered performance (Adejumo, 2021). Especially in times of uncertainty, a sense of belongingness may become a crucial factor for improving an organisation's performance and retention of employees (Jing & Yan, 2022). Baumeister and Leary (1995) discussed that support provided by individuals with whom one shares a bond in

their environment effectively generates a sense of belongingness. People self-reflect at work on how their supervisor, coworkers and other people in their environment treat them, which fosters a sense of belonging (Innstrand & Grødal, 2022). Supervisors in organisations possess the ability to foster such a bond with their employees, and the impact of this bond on belongingness is more substantial for female employees than their male counterparts (Caminong et al., 2023). Sargent et al. (2022) encapsulate in the review that the supervisor provides two types of support to address issues related to work-family conflicts: emotional and instrumental. Emotional support is provided through the expression of care and empathy, while instrumental support is provided through adequate resources and direction. The moderating role of supervisor support in the direct and mediated linkages between challenges triggered by work-family issues and intention to leave is observed (French & Shockley, 2020). In the study of mothers-to-be working in the IT industry in India, Agarwal and Nelson (2023) also observed that supervisory support moderates the turnover intention generated by challenges of personal and professional life clashes. Considering the importance of supervisor support in reducing turnover intentions, it is essential to study whether, amongst Indian working mothers, this support facilitates generating a feeling of belongingness and moderates their intention to leave the job. Studies have assessed the moderating role of supervisors. However, they are focused on mitigating work-family conflicts and turnover intentions. Also, existing literature primarily focuses on Western contexts, leaving a

gap in understanding how supervisor support fosters belongingness in the unique socio-cultural dynamics of India and influences working mothers' leave intentions.

H4: Supervisor support positively moderates the mediated relation between time pressure and intention to leave through mental health, such that increased supervisor support inflates the relationship between time pressure and intention to leave through mental health.

H5: Supervisor support positively moderates the mediated relation between time pressure and intention to leave through work-life balance, such that increased supervisor support inflates the relationship between time pressure and intention to leave through work-life balance.

3. Research Methodology

3.1 Sample selection and data collection

To collect the data for the present study, working mothers residing in metro cities in India who are engaged in full-time jobs were approached. The survey instrument was shared with respondents online, including through e-mails and message applications. The scale items were distributed in English and translated into Hindi (local language) to avoid the sample misinterpreting the scale. The translation of the items was done using Google Translate, and later, the translation was confirmed by the language expert. The convenience sampling method was selected to collect the data, considering the method is prompt and economical. The
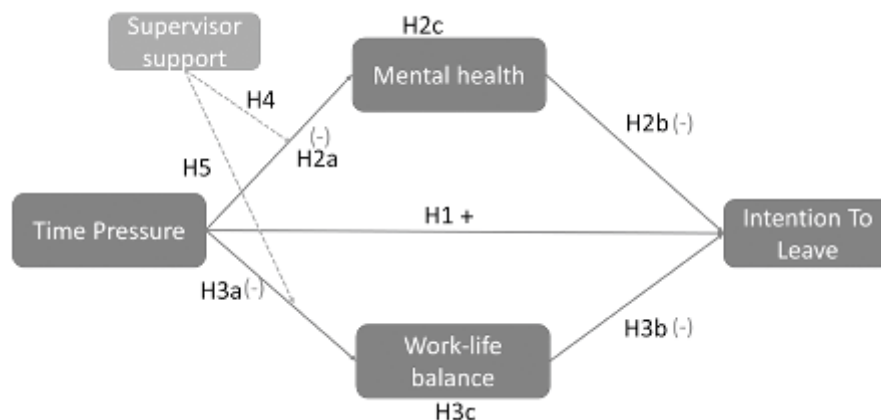
Source: Developed by authors. Note:(+) and (-) denote the direction of association among variables. (+) indicates positive association, (-) denotes inverse/negative association

Figure 1. Conceptual model

instrument was circulated among 590 samples, out of which 454 submitted their responses (response rate 76.94%). Due to incomplete data, 46 responses were removed, leaving 408 suitable samples for further analysis.

The ages of the respondents ranged from 29 to 44 years. 76.23% of samples have at least one, and 23.77% have a maximum of two children. Age of their youngest children ranged from one month to six years. Following the epidemic, 8.09% of respondents continued to work from home, while others were required to report to the workplace daily (75.49%) or weekly (16.42%). Annexure 1 depicts the sample's demographics. To ensure that the sample size was adequate, the G*Power software was used with the settings $f^2 = 0.15$ (medium) and $\alpha = 0.05$; the power derived was 0.99, which met the specified threshold of 0.80 (Cohen, 1988).

3.2 Measures

For the present study, the researchers employed standardised scales of a five-point Likert scale depicting 1 = strongly disagree to 5 = strongly agree. The survey instrument included 28 items in total. Two items from the time pressure scale (TP1 and TP2) were removed since they were loading onto other factors. The factor loadings of all the remaining items passed the recommended threshold (>0.60). The values of Cronbach's alpha, composite reliability of the scale and factor loadings of all the items are mentioned in Annexure 2.

3.2.1 Time Pressure

Time pressure was measured using the 'Time Pressure Scale' developed by (Roxburgh, 2002), consisting of nine items. The wordings of the scale were changed from second-person pronunciation to first-person pronunciation to maintain uniformity. For example, "You feel pressed for time" was changed to "I feel pressed for time."

3.2.2 Mental Health

Mental health was measured using the WHO-5 questionnaire (World Health Organisation, 1998), containing five items. (e.g. over the past two weeks, "I have felt cheerful and in good spirits")

3.2.3 Work-life balance

Work-life balance was measured using the 'Satisfaction of the work-life balance scale' developed by Banu & Duraipandian (2014) in the Indian context. The scale includes six items. (e.g. I am successful in managing my home and work demands)

3.2.4 Intention to Leave

Intention to leave is measured through three items of the 'Turnover Intention Scale' developed by Singh et al. (1996) (e.g. "It is likely that I will actively look for a new job next year."), and one item was added in addition to the original scale (e.g. "As soon as I get another acceptable job, I will quit.")

3.2.5 Supervisor support

Supervisor support was measured by the 'Family Supportive Supervisor Behaviour Short-Form (FSSB-SF) scale' developed by Hammer et al. (2013). Similar to the time pressure scale, the wordings were modified to the first-person pronunciation style. (e.g. "Your supervisor makes you feel comfortable talking to him/her about your conflicts between work and non-work" was changed to "My supervisor makes me feel comfortable talking to him/her about my conflicts between work and non-work".

3.3 Analytical approach

The present study has adopted a cross-sectional research design, and data analysis is done using the partial least squares-structural equation modelling (PLS-SEM) method. The decision to select variance-based SEM (PLS-SEM) over co-variance-based (CB-SEM) is taken as per guidelines given by (Hair et al., 2019). At first, PLS-SEM facilitates exploring and building or predicting a theory, while CB-SEM is best suited for theory testing. Another criterion for selecting between PLS-SEM and CB-SEM is multivariate normality. The normality of the data was tested using 'Web power' software to calculate Mardia's multivariate skewness and kurtosis. Since the p-value of skewness and kurtosis were found to be <0.001 and 0.002, respectively; hence, the null hypothesis (i.e. The data is not skewed and the data is not kurtosis) was rejected. Considering the above-listed conditions, the present study was conducted using PLS-SEM.

Since the present study included self-reported methods, the assessment of common method bias (CMB) was essential. To determine the degree to which bias exaggerated the relationship between the model's independent variables, Harman's single-factor test was conducted. IBM SPSS statistics 20 was used to conduct exploratory factor analysis. Using a principal axis model, the first factor explained a 35.68% variance, which is below the indication value of 50%. Hence, CMB is unlikely to be a significant concern for the present study.

In social sciences (specifically HRM) studies, Ringle et al. (2020) suggested that PLS-SEM is followed in two phases: measurement model specification and structural model evaluation. The present study followed this method of analysis and evaluated reliability, convergent validity, and discriminant validity to assess the measurement model; thereafter, structural model evaluation was conducted to assess the path coefficients and their significance using the bootstrapping technique. To assess mediation analysis, Preacher and Hayes' (2008) approach was followed, and moderation analysis was conducted using Model 7 of Hayes PROCESS Macro(Hayes, 2013). The Smart PLS4 was used to conduct PLS-SEM analysis. The moderation analysis was conducted using IBM SPSS statistics 20.

4. Data Analysis and Results

4.1 Assessment of Measurement Model

Following the guidelines of Hair et al. (2019), the researchers tested the reliability and validity of the constructs and their dimensions. The reliability of the construct was tested using Cronbach's alpha and composite reliability (CR). Cronbach's alpha values of each construct exceeded the threshold of 0.70; also, all the CR values were more than the recommended threshold of 0.70. The values of average variance extracted were over 0.50; hence, the convergent validity was confirmed. The results for reliability and convergent validity are presented in Annexure 2. Discriminant validity was also confirmed based on criteria of the Heterotrait-Monotrait (HTMT) Ratio and Fornell-Larcker criterion, presented in Table 1.

4.2 Assessment of Structural Model

In the assessment of the structural model, hypotheses were tested in the following steps: First, the direct effect of time

pressure on the intention to leave was calculated. The direct effects of time pressure on mental health and work-life balance were also calculated. Then, the direct effects of mental health on intention to leave and work-life balance on intention to leave were calculated. To assess these direct effects, a bootstrap resampling method with 5000 resamples was used (Ringle et al., 2005). The results of the direct effects of the proposed hypothesis are mentioned in Table 2. After this, the effects of time pressure on the intention to leave through the mediation of mental health and work-life balance were calculated. The mediation analysis results are mentioned in Table 3. Finally, the moderating effects of supervisor support on the mediating effect of time pressure on intention to leave through mental health and work-life balance were calculated. The results of the moderating effects are mentioned in Table 4. The structural model is presented in Figure 2.

4.2.1 Direct effects

As mentioned in Table 2, there is a significant and positive association between time pressure and intention to leave ($\beta = 0.153$, $t = 2.280$, $p = 0.011$); hence, H1 was supported. A significant and negative association between time pressure and mental health ($\beta = -0.543$, $t = 14.003$, $p < 0.001$) and between mental health and intention to leave was found ($\beta = -0.129$, $t = 2.268$, $p = 0.012$); hence, H2a and H2b were supported. Similarly, a significant and negative association between time pressure and work-life balance ($\beta = -0.650$, $t = 22.287$, $p < 0.001$) and between work-life balance and intention to leave ($\beta = -0.14$, $t = 2.304$, $p = 0.011$) was found; hence, H3a and H3b were supported.

Table 1. HTMT RATIO and FORNELL - LACKER criteria

	ITL	MH	SUP	TP	WLB
ITL	**0.908**	-0.278	-0.671	0.344	-0.301
MH	0.296	**0.876**	0.138	-0.581	0.46
SUP	0.732	0.147	**0.882**	-0.249	0.165
TP	0.373	0.633	0.273	**0.759**	-0.63
WLB	0.322	0.497	0.173	0.657	**0.854**

Source: Authors' survey. Note: Above the bold diagonal factors are the HTMT ratios, and below the bold diagonal are the estimated correlations. TP = Time pressure, MH = Mental health, WLB = Work-life balance, ITL = Intention to leave and SS = Supervisor support.

Table 2. Direct effects

Hypotheses		Beta Coefficient	T statistics	P values	Decision
H1	TP -> ITL	0.153	2.28	0.011	Supported
H2a	TP -> MH	-0.543	14.003	0.000	Supported
H2b	MH -> ITL	-0.129	2.268	0.012	Supported
H3a	TP -> WLB	-0.650	22.287	0.000	Supported
H3b	WLB -> ITL	-0.14	2.304	0.011	Supported

Source: Authors' survey. Note: TP = Time pressure, MH = Mental health, WLB = Work-life balance, ITL = Intention to leave and SS = Supervisor support

4.2.2 Mediation analysis

A mediation analysis was performed to assess the mediating role of mental health and work-life balance in the relationship between time pressure and intention to leave; the results of the mediation analysis are mentioned in Table 3. The results showed a significant indirect effect of time pressure on intention to leave through mental health (β = 0.070, t = 2.254, p=0.012) and through work-life balance (β = 0.091, t = 2.358, p=0.009). The total effect of time pressure on intention to leave was significant (β = 0.314, t = 6.781, p <0.001).; while with the inclusion of mediators, mental health and work-life balance, the effect of time pressure on intention to leave was also significant (β = 0.153, t = 2.28, p=0.01). These results are indications of the existence of partial mediation (Hair et al., 2023) of mental health and work-life balance in the linkages between time pressure and intention to leave. To further confirm the partial mediation, the variance accounted factor (VAF) was calculated. While comparing to the mediation criteria (20% - 80% partial mediation) (Hair et al., 2023); both VAF values directed partial mediation (mental health=22.29%, work-life balance=28.98%). Indicating H2c and H3c were supported.

Table 3: Mediation analysis

Total effect (TP -> ITL)			Direct effect (TP -> ITL)			Structural Relationship	Hypotheses	Indirect Effects				Percentile Bootstrap 95% confidence interval		VAF Indirect effect/total effect	Outcome
Coefficient	t value	p-value	Coefficient	t value	p-value			Coefficient	SE	t value	p-value	Lower	Upper		
0.314	6.781	0.000	0.153	2.28	0.011	TP -> MH -> ITL	H2c	0.070	0.031	2.254	0.012	0.02	0.122	22.29%	Partial mediation
						TP -> WLB -> ITL	H3c	0.091	0.039	2.358	0.009	0.027	0.155	28.98%	Partial mediation

Source: Authors' survey. Note: TP = Time pressure, MH = Mental health, WLB = Work-life balance, ITL = Intention to leave and SS = Supervisor support.

Source: Authors' survey, **p < .05
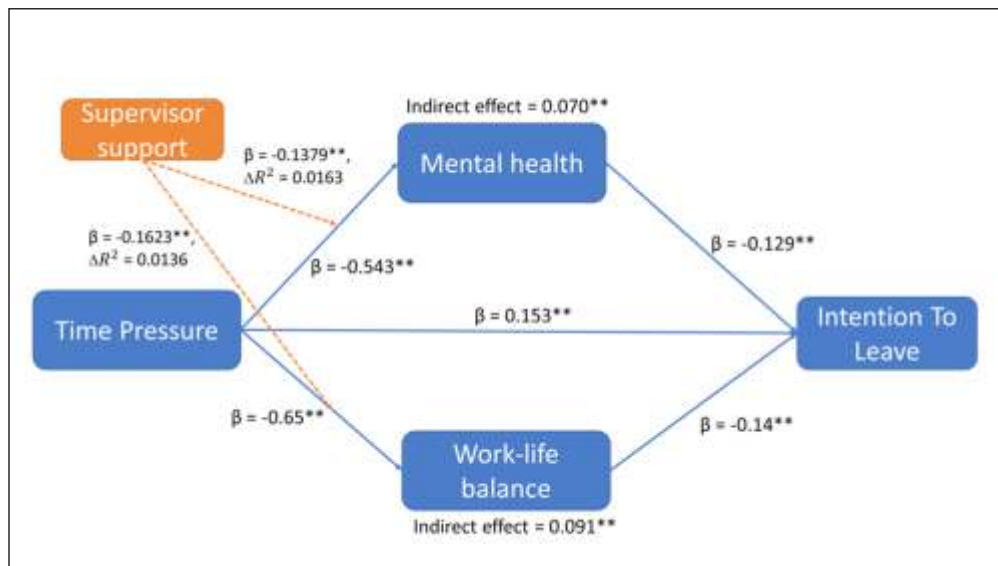
Figure 2. Structural model

4.2.3 Moderation analysis

The investigation of moderated mediation analysis was conducted using Model 7 of Hayes (2013) PROCESS Macro using IBM SPSS 20.

4.2.3.1 Analysis of moderated mediation of supervisor support through mental health

The index of moderated mediation path through mental health was significant [β =0. 0260, 95% percentile CI .0049,.0573)]; suggesting supervisor support moderates the mediated effect of time pressure on intention to leave through mental health; hence H4 supported. The conditional indirect effect of high values (+1 SD) of supervisor support was the strongest, [β =0.1669, 95% percentile CI (0.0416, 0.3068)], it was weaker yet significant for medium values [β =0.1344, 95% percentile CI (0.0327, 0.2445)] and for small values (-1SD) [β =0.1018, 95% percentile CI (0.0234, 0.1962)]. Figure 3 depicts the slope of moderating interaction of the study variables through mental health.

For the path from time pressure to mental health, there was a significant interaction between time pressure and supervisor support, suggesting supervisor support moderates the effect of time pressure on mental health (β = -.1379, p = 0.001, ΔR^2 = 0.0163). The (negative) conditional effect from time pressure on supervisor support was strongest and significant for high values (+1 SD) (β = -.8852, p < .001), weaker yet

significant for medium values (β = -.7126, p < .001) and for small values (-1SD) (β = -.5401, p < .001)

The path from mental health to intention to leave was (negative) significant (β = -.1886, p =0.01). The direct effect of time pressure on the intention to leave was also significant (β = 0.3985, p < .001). The full regression results are mentioned in Table 4.

4.2.3.2 Analysis of moderated mediation of supervisor support through work-life balance

The index of moderated mediation path through work-life balance was significant [β =0.0261, 95% percentile CI (.0051, .0602)], suggesting supervisor support moderates the mediated effect of time pressure on intention to leave through work-life balance; hence H5 supported. The conditional indirect effect of high values (+1 SD) of supervisor support was the strongest, [β =0.2043, 95% percentile CI (.0572, .3505)], it was weaker yet significant for medium values [β =0.1716, 95% percentile CI (.0480, .2870)] and for small values (-1SD) [β =0.1389, 95% percentile CI (.0392, .2330)]. Figure 4 depicts the slope of moderating interaction of the study variables through work-life balance.

For the path from time pressure to work-life balance, there was a significant interaction between time pressure and supervisor support, suggesting supervisor support
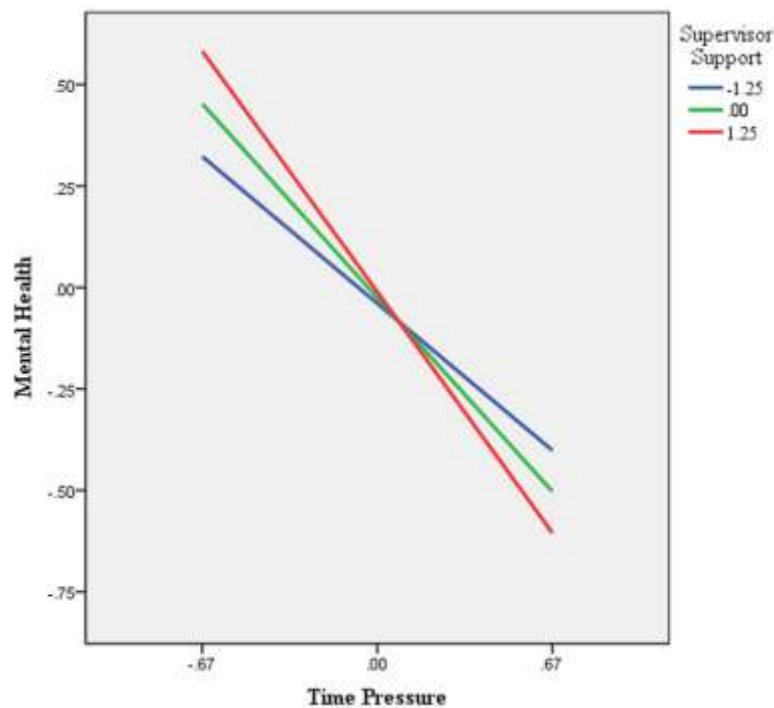
Source: Authors' survey

Figure 3. Simple slope of the relationship between time pressure and mental health at three points along the scale of the supervisory support using a pick-a-point approach

Table 4. Regression results for the moderation paths

Regression results for the path from time pressure to mental health and for the path from mental health to intention to leave

Variable	Model for path from TP to MH			Model for path from MH to ITL		
	β	SE	p	β	SE	p
TP	-0.7126	0.0551	<.001	0.3985	0.0956	<.001
SS	0.115	0.0295	0.7021			
TP*SS	-0.1379	0.0442	0.0019			
MH				-0.1886	0.0729	0.01

Regression results for the path from TP to WLB and for the path from WLB to ITL

Variable	Model for path from TP to WLB			Model for path from WLB to ITL		
	β	SE	p	β	SE	p
	β	SE	p	β	SE	p
TP	-1.065	0.0654	<.001	0.3609	0.1037	0.0006
SS	0.0185	0.035	0.5969			
TP*SS	-0.1623	0.0525	0.0021			
WLB				-0.1611	0.0614	0.009

Note: Model for path TP to MH R² = 0.3212, F (3,404) = 63.7216, p < .001, Model for path MH to ITL path R² = 0.1133, F(2, 405) = 25.8734, p < .001

Model for path TP to WLB R² = 0.4231, F (3,404) = 98.7609, p < .001, Model for path MH to ITL path R² =0.1137, F(2,405) =25.9844, p < .001

TP = Time pressure, MH = Mental health, WLB = Work-life balance, ITL = Intention to leave and SS = Supervisor support.

moderates the effect of time pressure on work-life balance (β = -.1623, p = 0.0021, ΔR^2 = 0.0136). The (negative) conditional effect from time pressure on supervisor support was strongest and significant for h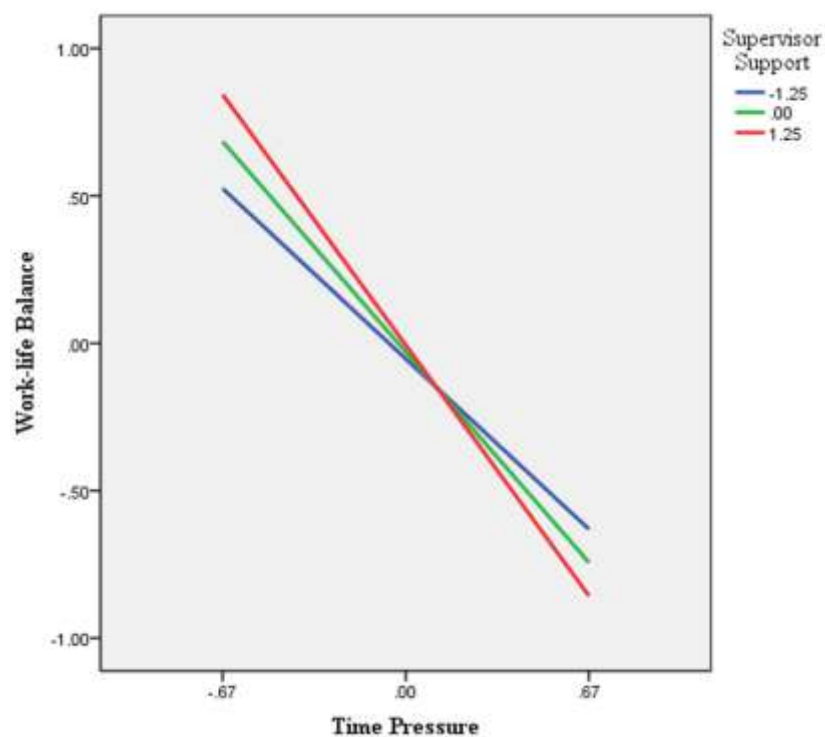igh values (+1 SD) (β = -1.2681, p < .001), weaker yet significant for medium values (β = -1.0650, p < .001) and for small values (-1SD) (β =-.8619, p < .001)

The path from work-life balance to intention to leave was (negative) significant (β = -.1886, p =0.01). The direct effect of time pressure on the intention to leave was also significant (β = 0.3985, p < .001). The full regression results are mentioned in Table 4.

Source: Authors' survey

**Figure 4. Simple slope of the relationship between time pressure and work-life balance
at three points along the scale of the Supervisor support using a pick-a-point approach**

5. Discussion

The present study aims to understand the linkages between time pressure and intention to leave among working mothers in India through a moderated mediation approach. The results provide empirical evidence confirming the hypotheses and facilitate an understanding of how time poverty impacts Indian working mothers.

The findings confirmed a significant positive association between time pressure and intention to leave (H1). They align with the previous research that establishes the presence of time poverty among working mothers (Hyde et al., 2020; Limbers et al., 2020). In the Indian context, working mothers play a more prominent role in childcare

than fathers, alongside managing their job demands. The demand of being omnipotent on Indian working mothers is high, leading them to have inadequate discretionary time. In accordance with the time poverty theory, this inadequacy of discretionary time generates time pressure among working mothers. Unlike Western countries, where the societal structure provides concrete alternatives in childcare arrangements (including spouse support), which can reduce the time pressure, Indian working mothers lack such arrangements due to strong gender role norms, and hence, they intend to leave their jobs.

The present study found a significant negative association between time pressure and mental health (H2a), consistent

with earlier studies' findings (Craig et al., 2020; Giurge et al., 2020; Ruppanner et al., 2019). The study also found a significant negative association between time pressure and work-life balance (H3a), consistent with the observations of earlier studies (Kellher et al., 2019; Shirmohammadi et al., 2022). The study found that working mothers who are under constant time pressure are at a heightened risk of experiencing a decline in their mental health and work-life balance. Also, the study observed that mental health and work-life balance are negatively associated with the intention to leave the job (H2b and H3b). The findings support the previous studies (Craig et al., 2020; Lawson et al., 2023). The findings suggest that working mothers in family-oriented countries such as India experience mental health issues, and they struggle to balance their work-life balance, which leads to intention to leave their jobs.

The present study further identified the mediation of mental health and work-life balance between time pressure and intention to leave among working mothers (H2c and H3c). The findings exhibited partial mediation of both the mediators. This indicates that although time pressure directly impacts Indian working mothers' intention to leave their jobs, its adverse effect on mental health and work-life further intensifies the decision. Similar to the time poverty theory (Vickery, 1977), individuals, particularly working mothers, face chronic shortages of discretionary time due to overlapping dual responsibilities. As their time poverty intensifies, their ability to maintain their sound mental health and work-life balance reduces. This resource depletion reinforces their intention to leave the job.

Further, the study identified the moderating role of supervisor support in the association between time pressure and intention to leave through the mediation of mental health (H4). The conditional indirect effect was strongest at high and weakest at low levels. This indicates that, with an increase in supervisor support, the mental health of working mothers improves, which strengthens the mediation of mental health in the association between time pressure and intention to leave. Similarly, the moderating role of supervisor support between the time pressure and intention to leave through the mediation of work-life balance (H5) was assessed. The mediated moderation was strongest at a high level and weakest at a low level. This means that the more the supervisor, the better the work-life balance of working mothers, and the mediation between time pressure and intention to leave gets stronger. In other words, when solid supervisor support is available, working mothers experience improvement in their mental health and work-

life balance, which reduces their leave intentions. As explained through the need to belong theory (Baumeister & Leary, 1995), supervisor support fulfils the fundamental need for social connection, which helps working mothers effectively balance dual responsibilities. By providing emotional support (through empathy) and instrumental support (through resources), a supervisor fosters a feeling of inclusion, belongingness and psychological security (Sargent et al., 2022). This results in working mothers feeling valued and supported at their workplace; hence, even with the presence of time pressure, its negative impact on their mental health and work-life balance lessens, and due to this, their leave intentions reduce.

6. Implications

6.1 Theoretical Implications

The study delves into the intricate connections between time pressure and the intention to leave among working mothers in India, offering significant theoretical contributions to the existing body of knowledge. Firstly, our research extends the conceptual framework of time poverty initially proposed by Vickery (1977), shedding light on its relevance and implications for the unique circumstances faced by working mothers. Notably, our findings align with prior investigations (Collie, 2023; Huynh, 2020; Marimuthu & Wahab, 2022), which primarily focused on Western populations, thus enriching the discourse on time pressure and intention to leave within the distinctive context of Indian working mothers.

Secondly, this study identifies mental health and work-life balance as crucial mediators in unravelling the association between time pressure and the intention to leave. Earlier studies have analysed these associations independently (e.g. (Craig et al., 2020; Hewitt et al., 2022; Shirmohammadi et al., 2022; Syuzairi et al., 2023). The present study, through an analysis of mediation association, explains the strength and direction of these relationships, offering a comprehensive understanding. Identifying these mediation mechanisms advances the theoretical understanding of how time pressure has multifold impacts on the attrition of working mothers.

Thirdly, the study adopted a moderated mediation approach, specifically examining the role of supervisor support. This novel aspect provides valuable insights into how supervisor support can amplify the mediating effects of mental health and work-life balance in the relationship between time pressure and the intention to leave. This underscores the

importance of the need to belong theory, emphasising the pivotal role of supportive supervision. The need to belong theory (Baumeister & Leary, 1995) focuses on an individual's fundamental psychological need to maintain meaningful social relationships. Studies based on this theory assert that in the workplace, supervisor support generates a sense of belongingness(Hau, 2023; Innstrand & Grødal, 2022). The present study provides empirical backing for this theoretical perspective. Also, it contributes to the knowledge about how supervisor support not merely fosters a sense of belonging but also mitigates mental health and work-life balance issues, ultimately reducing withdrawal intentions of working mothers in India.

In essence, this research enhances theoretical discourse by integrating time poverty and need to belong theories, highlighting the psychological and organisational mechanisms that shape working mothers' career decisions. In essence, this study not only provides empirical understanding to the existing body of knowledge but also highlights the psychological (e.g. mental health), social (work-life balance) and organisational (supervisor support and intention to leave) mechanisms associated with working mothers' time pressure. The insights observed in the present study within the Indian socio-cultural landscape can inspire future research on gender-based employee retention strategies.

6.2 Managerial Implications

The present study provides guidelines to decision-makers and key policy players regarding achieving gender equity in their workplace. While the current equity and diversity practices followed by organisations are commendable, they fail to address the underlying challenges of working mothers. One of the primary barriers to retaining Indian working mothers in the workplace is the abundance of parenting responsibilities they carry, coupled with significant time pressure. This study highlights how time poverty contributes to working mothers' intention to leave their jobs, necessitating targeted interventions.

The findings of the study highlight the role of supervisor support in reducing challenges of mental health, work-life balance and leave intentions of working mothers. Taking the findings at the base, organisations should invest in supervisor training programs that focus on enhancing emotional support and workload flexibility. Equipping supervisors with the necessary skills can improve working mothers' retention.

Additionally, apart from empowering supervisors, organisations should formalise family-friendly policies such as remote work options and flexible hours. These initiatives can help alleviate time pressure and reduce the adverse consequences faced by working mothers in India. Furthermore, organisations should implement programs tailored to the needs of working mothers that promote mental health and work-life balance. Providing access to counselling services, employee assistance programs, time management workshops, yoga and meditation practices and other workplace wellness initiatives are some of the programs that can be arranged.

7. Conclusion, Limitations and Future Research

Rooted in the foundational concepts of time poverty and the need to belong, the study examined the moderated mediated relationship between time pressure and the intention to leave among Indian working mothers. The study confirms that time pressure negatively relates to mental health and work-life balance while positively relates to the intention to leave the job. Also, the study confirms the partial mediation of mental health and work-life balance in the association of time pressure and intention to leave. The study observed moderation of supervisor support in this mediation. The findings indicate that robust supervisor support inflates the mediating effects of mental health and work-life balance, accentuating the impact of time pressure on the intention to leave among working mothers.

Nevertheless, the study has several limitations, opening paths for future research. First, the cross-sectional nature prompts caution in interpreting causal relationships, which dictates the need to adopt longitudinal, qualitative or experimental approaches in future research to study the associations in detail. Second, the scope of the research was limited to working mothers in metro cities of India, which potentially limits the generalisability. A comparative study, including diverse urban and rural populations that assesses these associations, can be conducted in the future to gain a more comprehensive perspective. Third, future researchers may explore alternative mediators such as self-efficacy, performance pressure and change fatigue. Similarly, the role of spouse support as a moderator in these associations can be evaluated.

Declarations

Conflict of interest: No potential conflicts of interest disclosed by the authors.

Compliance with Ethical Statement

Informed Consent: All responses were collected post attaining informed consent from all respondents.

Ethical approval: Application for retrospective ethical approval is in consideration with the University's Independent ethical committee

References:

Adejumo, V. (2021). Beyond diversity, inclusion, and belonging. *Leadership*, *17*(1), 62–73. https://doi.org/ 10.1177/1742715020976202

Agarwal, B., & Nelson, M. M. (2023). Impact of Organizational and Supervisory Support Perceptions on the Turnover Intentions of Working Mothers-to-Be: A Study of the Indian IT Sector. *International Journal of Business Analytics*, *10*(1), 1–15. https://doi.org/ 10.4018/IJBAN.321536

Akanji, B., Mordi, C., Ajonbadi, H., & Adekoya, O. (2022). The Impact of COVID-19 on the Work-Life Balance of Working Mothers: Evidence from Nigerian Academics. *Personnel Review*, 1–24.

Allen, K. A., Kern, M. L., Rozek, C. S., McInerney, D. M., & Slavich, G. M. (2021). Belonging: A review of conceptual issues, an integrative framework, and directions for future research. *Australian Journal of Psychology*, *73*(1), 87–102. https://doi.org/ 10.1080/00049530.2021.1883409

Alon, T., Doepke, M., Olmstead-Rumsey, J., & Tertilt, M. (2020). The Impact of COVID-19 on Gender Equality. In *National Bureau of Economic Research: Vol. No. w2694*.

Aravind, I. (2023). *work diversity: Why mandatory return to office could come at the cost of a diverse workforce - The Economic Times*. The Economics Times. https://economictimes.indiatimes.com/jobs/hr-policies-trends/why-mandatory-return-to-office-could-come-at-the-cost-of-a-diverse-workforce/articleshow/101246141.cms?from=mdr

Artazcoz, L., Cortès-Franch, I., Arcas, M. M., Ollé-Espluga, L., & Pérez, K. (2024). Time poverty, health and health-related behaviours in a Southern European city: A gender issue. *Journal of Epidemiology and Community Health*, *78*(5), 284–289. https://doi.org/ 10.1136/jech-2023-220750

Banu, A. R., & Duraipandian, K. (2014). Development Of An Instrument to Measure Work Life Balance of It Professionals In Chennai. *International Journal of Management*, *5*(11), 21–33. https://doi.org/ https://doi.org/10.5937/sjm11-8062

Baumeister, R. F., & Leary, M. R. (1995). The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation. *Psychological Bulletin*, *117*(3), 497–529. https:// doi.org/10.1037/ 0033-2909.117.3.497

Baumeister, R. F., & Robson, D. A. (2021). Belongingness and the modern schoolchild: on loneliness, socioemotional health, self-esteem, evolutionary mismatch, online sociality, and the numbness of rejection. *Australian Journal of Psychology*, *73*(1), 103–111. https://doi.org/ 10.1080/00049530.2021. 1877573

Brough, P., Timms, C., Chan, X. W., Hawkes, A., & Rasmussen, L. (2020). Work – Life Balance/ : Definitions, Causes, and Consequences. In *Handbook of Socioeconomic Determinants of Occupational Health*. https://doi.org/https://doi.org/10.1007/978-3-030-05031-3_20-1 Copyright

Caminong, J. M., Tanpoco, M. R., Morales, R. R. L., & Pitargue, K. S. (2023). The Impact of Reflective Leadership on Workplace Belongingness: A Gender-Inclusive Analysis Using a Convergent Mixed Methods Approach. *International Journal of Multidisciplinary: Applied Business and Education Research*, *4*(6), 1989–2003. https://doi.org/ 10.11594/ IJMABER.04.06.24

Carmichael, F., Daley, P., Darko, C., Duberley, J., Ercolani, M., Schwanen, T., & Wheatley, D. (2024). Long work hours and long commutes in the Greater Accra region of Ghana: Time Poverty and Gender. *Feminist Economics*. https://doi.org/10.1080/ 13545701.2024.2413913

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences. In *2 nd Ed. Hillsdale, New Jersey: Lawrence Erlbaum Associates*. Routledge. https://doi.org/10.4324/9780203771587

Collie, R. J. (2023). Teacher well-being and turnover intentions: Investigating the roles of job resources and job demands. *British Journal of Educational Psychology*, 1–15. https://doi.org/10.1111/BJEP.12587

Craig, L., Brown, J. E., & Jun, J. (2020). Fatherhood, motherhood and time pressure in Australia, Korea, and Finland. *Social Politics*, *27*(2), 312–336. https://doi.org/10.1093/sp/jxz006

Del Boca, D., Oggero, N., Profeta, P., & Rossi, M. (2020). Women's and men's work, housework and childcare, before and during COVID-19. *Review of Economics of the Household*, *18*(4), 1001–1017. https://doi.org/10.1007/s11150-020-09502-1

Feng, Z., & Savani, K. (2020). Covid-19 created a gender gap in perceived work productivity and job satisfaction: implications for dual-career parents working from home. *Gender in Management*, *35*(7–8), 719–736. https://doi.org/10.1108/GM-07-2020-0202

French, K. A., & Shockley, K. M. (2020). Formal and Informal Supports for Managing Work and Family. *Current Directions in Psychological Science*, *29*(2), 207–216. https://doi.org/10.1177/0963721420906218

Giurge, L. M., Whillans, A. V., & West, C. (2020). Why time poverty matters for individuals, organisations and nations. *Nature Human Behaviour*, *4*(10), 993–1003. https://doi.org/10.1038/s41562-020-0920-z

Goldin, C. (2022). Career and family: Women's century long journey toward equity. *Princeton: Princeton University Press*, *xii*, 344. https://doi.org/10.1111/rsp3.12551

Goodin, R. E., Rice, J. M., Bittman, M., & Saunders, P. (2005). The time-pressure illusion: Discretionary time vs. free time. *Social Indicators Research*, *73*(1), 43–70. https://doi.org/10.1007/s11205-004-4642-9

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N., & Ray, S. (2023). Mediation analysis. Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. In *Structural Equation Modeling: A Multidisciplinary Journal* (Vol. 30, Issue 1). https://doi.org/10.1080/10705511.2022.2108813

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Haldorai, K., Kim, W. G., Phetvaroon, K., & Li, J. (Justin). (2020). Left out of the office "tribe": the influence of workplace ostracism on employee work engagement. *International Journal of Contemporary Hospitality Management*, *32*(8), 2717–2735. https://doi.org/10.1108/IJCHM-04-2020-0285

Hammer, L., Kossek, E., Bodner, T., & Crain, T. (2013). Measurement Development and Validation of the Family Supportive Supervisor Behavior Short-Form (FSSB-SF). *Journal of Occupational Health Psychology*, *18*(3), 285–296. https://doi.org/10.1037/a0032612

Hau, E. (2023). *Workplace Belongingness: The Effect of Perceptions of Supervisor Support, Perceived Role Discretion, and Perceptions of Psychological Safety on Perceptions of Belongingness at Work*. https://repositorio.ufsc.br/xmlui/bitstream/handle/123456789/167638/341506.pdf?sequence=1&isAllowed=y%0Ahttps://repositorio.ufsm.br/bitstream/handle/1/8314/LOEBLEIN%2C LUCINEIA CARLA.pdf?sequence=1&isAllowed=y%0Ahttps://antigo.mdr.gov.br/saneamento/proees

Hayes, A. F. (2013). Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach. In *Guilford Publications, Inc.* https://doi.org/10.4324/9781315148878-9

Hewitt, B., Yerkes, M. A., Cooklin, A., & Strazdins, L. (2022). Reciprocal relationships between time pressure and mental or physical health in Australian mothers of preschool aged children. *Social Science and Medicine*, *301*, 114937. https://doi.org/10.1016/j.socscimed.2022.114937

Huynh. (2020). Impacts of Job Stress and Dissatisfaction on Turnover Intention. A Critical Analysis of Logistics Industry – Evidence from Vietnam. *International Journal of Economics and Business Administration*, *VIII*(Issue 4), 914–929. https://doi.org/10.35808/ijeba/640

Hyde, E., Greene, M. E., & Darmstadt, G. L. (2020). Time poverty: Obstacle to women's human rights, health and sustainable development. *Journal of Global Health*, *10*(2), 1–5. https://doi.org/10.7189/JOGH.10.020313

Innstrand, S. T., & Grødal, K. (2022). Antecedents and consequences of perceived inclusion in academia. *International Journal of Environmental Research and Public Health*, *19*(1). https://doi.org/10.3390/ijerph19010431

Irani, L., & Vemireddy, V. (2020). Getting the measurement right! quantifying time poverty and multitasking from childcare among mothers with children across different age groups in rural north India. *Asian Population Studies*, 1–23. https://doi.org/10.1080/17441730.2020.1778854

Ishizuka, P. (2021). The motherhood penalty in context: Assessing discrimination in a polarized labor market. *Demography*, *58*(4), 1275–1300. https://doi.org/10.1215/00703370-9373587

Jing, J., & Yan, J. (2022). Study on the Effect of Employees' Perceived Organizational Support, Psychological Ownership, and Turnover Intention: A Case of China's Employee. *International Journal of Environmental Research and Public Health*, *19*(10). https://doi.org/10.3390/ijerph19106016

Kellher, C., Richardson, J., & Bioarintseva, G. (2019). All of work? All of life? Reconceptualising work life balance for the 21st century. *Human Resource Management Journal*, *29*(2), 97–112.

Kunzelmann, A., & Rigotti, T. (2021). How time pressure is associated with both work engagement and emotional exhaustion: The moderating effects of resilient capabilities at work. *German Journal of Human Resource Management*, *35*(3), 309–336. https://doi.org/10.1177/2397002220952741

Lawson, K. M., Barrineau, M. J., Woodling, C. M., Ruggles, S., & Largent, D. L. (2023). The Impact of COVID-19 on U.S. Computer Science Faculty's Turnover Intentions: The Role of Gender. *Sex Roles*, *88*(7–8), 383–396. https://doi.org/10.1007/s11199-023-01361-1

Limbers, C. A., McCollum, C., & Greenwood, E. (2020). Physical activity moderates the association between parenting stress and quality of life in working mothers during the COVID-19 pandemic. *Mental Health and Physical Activity*, *19*(July), 100358. https://doi.org/10.1016/j.mhpa.2020.100358

Marimuthu, L., & Wahab, M. A. (2022). The Role of Management Pressure on Employees' Turnover Intention in the Hospitality Industry in Malaysia. *Global Business and Management Research: An International Journal*, *14*(3s), 655–664.

Mazumdar, K., Sen, I., & Parekh, S. (2022). The invisible frontline workers: lived experiences of urban Indian mothers during COVID-19 in India. *Journal of Gender Studies*, *31*(5), 623–638. https://doi.org/10.1080/09589236.2021.2007472

Mezzadri, A., & Majumder, S. (2022). Towards a Feminist Political Economy of Time Labour Circulation, Social Reproduction & the 'Afterlife' of Cheap Labour. *Review of International Political Economy*, *29*(6), 1804–1826. https://doi.org/https://doi.org/10.1080/09692290.2020.1857293

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879–891. https://doi.org/10.3758/BRM.40.3.879

Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *International Journal of Human Resource Management*, *31*(12), 1617–1643. https://doi.org/10.1080/09585192.2017.1416655

Roberts, K. (2007). Work-life balance - The sources of the contemporary problem and the probable outcomes: A review and interpretation of the evidence. *Employee Relations*, *29*(4), 334–351. https://doi.org/10.1108/01425450710759181

Roxburgh, S. (2002). Racing Through Life: The Distribution of Time Pressures by Roles and Role Resources Among Full-Time Workers. *Journal of Family and Economic Issues*, *23*(2), 121–145. https://doi.org/10.1023/A:1015734516575

Ruppanner, L., Perales, F., & Baxter, J. (2019). Harried and unhealthy? Parenthood, time pressure, and mental health. *Journal of Marriage and Family*, *81*(2), 308–326. https://doi.org/10.1111/jomf.12531

Sargent, A. C., Shanock, L. G., Banks, G. C., & Yavorsky, J. E. (2022). How gender matters: A conceptual and process model for family-supportive supervisor behaviors Amanda. *Human Resource Management Review*, *32*(4), 1–16.

Shirmohammadi, M., Chan Au, W., & Beigi, M. (2022). Antecedents and Outcomes of Work-Life Balance While Working from Home: A Review of the Research Conducted During the COVID-19 Pandemic. *Human Resource Development Review*, *21*(4), 473–516. https://doi.org/10.1177/15344843221125834

Singh, A., Chokhandre, P., Singh, A. K., Barker, K. M., Kumar, K., McDougal, L., James, K. S., & Raj, A. (2022). Development of the India Patriarchy Index: Validation and Testing of Temporal and Spatial Patterning. *Social Indicators Research*, *159*(1), 351–377. https://doi.org/10.1007/s11205-021-02752-1

Singh, J., Verbeke, W., & Rhoads, G. K. (1996). Do Organizational Practices Matter in Role Stress Processes? A Study of Direct and Moderating Effects for Marketing-Oriented Boundary Spanners. *Journal of Marketing*, *60*(3), 69–86. https://doi.org/10.1177/002224299606000305

Singh, N., Kaur, H., & Nagaich, S. (2024). No Time for Self: An Investigation of Time Poverty in Different Work Structures. *The International Academic Forum*, 1–12.

Song, M., Choi, H. J., & Hyun, S. S. (2021). MBTI personality types of Korean cabin crew in Middle Eastern airlines and their associations with cross-cultural adjustment competency, occupational competency, coping competency, mental health and turnover intention. *International Journal of Environmental Research and Public Health*, *18*(7). https://doi.org/10.3390/ijerph18073419

Syuzairi, M., Pratiwi, M., & Apriansyah, F. (2023). Work-Life Balance and its Impact on Turnover Intention among Educators: Job Satisfaction as a Mediation. *In ICEMBA 2022: Proceedings of the International Conference on Economic, Management, Business and Accounting, ICEMBA 2022, 17 December 2022, Tanjungpinang, Riau Islands, Indonesia. European Alliance for Innovation.*, 258–264. https://doi.org/10.4108/eai.17-12-2022.2333271

Tayal, D., & Paul, S. (2021). Labour Force Participation Rate of Women in Urban India: An Age-Cohort-Wise Analysis. *Indian Journal of Labour Economics*, *64*(3), 565–593. https://doi.org/10.1007/s41027-021-00336-8

Torabi, F., Saravani, K., Khodaparast, F. S., & Kheradmand-Saadi, H. (2025). The Prevalence and Intensity of Time Poverty in Urban Areas of Iran. *Social Indicators Research 2025*, 1–20. https://doi.org/10.1007/S11205-025-03517-W

Veli Korkmaz, A., van Engen, M. L., Knappert, L., & Schalk, R. (2022). About and beyond leading uniqueness and belongingness: A systematic review of inclusive leadership research. *Human Resource Management Review*, *32*(4). https://doi.org/10.1016/j.hrmr.2022.100894

Vickery, C. (1977). The Time-Poor: A New Look at Poverty. *The Journal of Human Resources*, *12*(1), 27–48. https://doi.org/10.2307/145597

WHO. (2022). *Mental health*. World Health Organisation. https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

World Health Organisation. (1998). Wellbeing Measures in Primary Health Care/The Depcare Project. In *Report on a WHO Meeting: Stockholm, Sweden (No. WHO/EURO: 1998-4234-43993-62027). World Health Organization. Regional Office for Europe.* http://www.euro.who.int/__data/assets/pdf_file/0016/130750/E60246.pdf

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Annexure

Annexure 1

Sample details (n=408)	Frequency (s)	Percentage (in%)
Age of youngest child		
Below 2 years	261	63.97
2.1 to 4 years	88	21.57
4.1 to 6 years	59	14.46
Age of samples (in years)		
25 - 30	11	2.70
31-35	339	83.09
36-40	47	11.52
More than 40	11	2.70
Work setting		
WFH	33	8.09
WFO	308	75.49
Both	67	16.42
Number of child/ren		
1	311	76.23
2	97	23.77

Source: Prepared by authors, derived from responses.
WFM: Work-From-Home
WFO: Work-From-Office
Both: Following the combined practice of work-from-home and work from office

Annexure 2

Loadings, Reliability and Validity

Constructs and Scale-items	Factor loadings	Cronbach a	CR	AVE
Time pressure		0.895	0.916	0.611
TP3	0.718			
TP4	0.745			
TP5	0.722			
TP6	0.827			
TP7	0.848			
TP8	0.815			
TP9	0.786			
Mental health		0.924	0.943	0.768
MH1	0.853			
MH2	0.901			
MH3	0.903			
MH4	0.885			
MH5	0.837			
Work-life Balance		0.926	0.942	0.729
WLB1	0.844			
WLB2	0.869			
WLB3	0.840			
WLB4	0.863			
WLB5	0.853			
WLB6	0.852			
Intention to leave		0.930	0.948	0.825
ITL1	0.905			
ITL2	0.913			
ITL3	0.928			
ITL4	0.887			
Supervisor support		0.906	0.933	0.778
SUP1	0.889			
SUP2	0.849			
SUP3	0.892			
SUP4	0.896			

Source: Authors' survey

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Green Transformational Leadership for Employee Green Behaviour: The Moderating Effect of Emotional Intelligence and Green Training

Dr. Pallavi Deshpande
Symbiosis International University
Email: pallavi4deshpande@gmail.com

Dr. Anugaminipriya Srivastava
Symbiosis Institute of Business Management
Email: anugaminipriyasrivastava@sibmpune.edu.in

Abstract

The study examines the linkage between Green Transformational Leadership (GTL) and Employee Green Behaviour (EGB) through the intervening role of emotional intelligence and green training. For this study, a survey was conducted to collect responses through a questionnaire from employees in the Information Technology (IT) industry working at various levels in the organization. Exploratory Factor Analysis (EFA) was conducted to examine the model fit and the hierarchical regression analysis to test the hypothesis. Findings revealed that GTL positively influenced Green Organizational Identity (GOI), leading to EGB. Further, it was also found that Emotional Intelligence (EI) acted as a moderator in the relationship between GTL and GOI, and Green Training (GT) acted as a moderator to strengthen the relationship between GOI and EGB, respectively. The study adds value and suggests potentially prolific links between GTL and EGB. The best practices for implementation to improve employee green behaviour are discussed based on the findings.

Keywords: *Green Transformational Leadership (GTL), Green Organizational Identity (GOI), Employee Green Behaviour (EGB), Green Training (GT), Emotional Intelligence (EI), Information Technology (IT).*

1. Introduction

The future of society depends on sustainable growth. Environmental concerns have been widely known due to ongoing difficulties with pollution, biodiversity loss, solid waste disposal, environmental degradation, national security and economic productivity, global warming, ozone layer depletion, and pollution. People worldwide have become more aware of the state of our environment. Rio de Janeiro United Nations Conference (1992) on Environment and Development and the Johannesburg World Summit (2002) on Sustainable Development was attributable. No human being on the planet can afford to be unaware of environmental concerns. Healthcare managers' attention has been drawn to environmental management. Awareness regarding controlling environmental risks has grown rapidly for sustainability as many organizations are working towards it.

Environmental conservation principles and techniques have even been highlighted in various sectors and organizations. Now more than ever, it is imperative that humanity as a whole possess a thorough awareness of environmental issues and adhere to sustainable development principles. Every company has to formulate environmental protection strategies and imbibe them in the organizational culture. The organization's employees also nurture this green attitude for sustainability as it is a crucial long-term challenge for all organizations across various sectors (Chen & Chang, 2013). Organizations are keen on implementing green strategies to achieve environmental goals defined by the United Nations. Information technology is not the escape from this, as it creates hazardous e-waste, which is very harmful to society and living creatures. Though technology is a boon that has enormous benefits and has made human life comfortable, it is a bane at the same time at the cost of harming the environment (Peng et al., 2020).

It has a direct and indirect impact. They use plenty of energy for massive data centers, and air conditioners, plastic, and paper are not finite (George & Jayakumar, 2019). A tiny percentage of outdated electronics are recycled, and others are disposed of in landfills. These dumps produce methane and other carbon emissions, and old machinery also spills compounds like mercury that mix with other poisons in wastewater, like pesticides. A deadly cocktail of chemicals can harm the environment, kill wildlife, and leak into rivers (Mansoor et al., 2021). So, these tech companies have gotten alert signals regarding energy-saving projects and gazettes that can produce less carbon emissions. They are sincerely considering implementing the three R's (Reduce, Recycle, and Reuse). This initiative will encourage employees to dispose of the devices responsibly and correctly. They also work for paperless transitions as much of their work happens and depends upon the technology—online video viewing accounts for 60% of all internet traffic worldwide. By 2025, digital technologies are expected to triple the 4% of global greenhouse gas emissions (Napathorn, 2021). As per the Ministry of Electronics and Information Technology (MEIT) Government of India, IT firms must use energy-saving strategies to reduce energy usage drastically. Further, it has advised employing renewable energy and developing carbon offset programs in the community to fulfill the environmental goals. According to the guidelines, information technology organizations should handle environmental issues using a holistic approach. Leaders who can change their teams' actions and behavior by setting an example for themselves must adopt this strategy. If leaders embrace green practices and take green initiatives to control and alter employee behavior, they will be considered green transformational leaders (Jiang et al., 2021). Such transformational leaders take action and act responsibly to develop a green organizational identity (GOI) amongst the employees with the help of green Training (Mittal & Dhar, 2016). According to research, if green transformational leaders possess high emotional intelligence (EI), they will successfully carry out the organization's goals. Green Training will raise employees' awareness of environmental issues and instill environmental values –(Deshpande & Srivastava, 2022). Transformational leaders with high emotional intelligence can comprehend their own and others' attitudes and emotions and gradually permeate their thoughts, which can be seen –(Niu et al., 2018). By taking a comprehensive strategy, green transformational leaders should always concentrate on the 'Green approach,' which implies that systems should use less energy, which means workers should have Green Desktops.

Further, 'green design' refers to the design of energy-efficient parts like servers, workstations, and cooling equipment. The disposal procedure should be followed diligently, and initiatives such as e-waste drives should be implemented regularly by the organizations (Deshpande et al., 2024). Reusing outdated components through refurbishment is also centered on the environmentally friendly disposal process (Khan et al., 2020). Such approaches can only be implemented by transformational leaders, who also can change the organization's pro-environmental culture (J. S. George & Jayakumar, 2020).

Establishing GOI shows that staff members respect leaders' principles and try to follow them strictly; this type of green behavior influence is seen in staff members (Parng et al., 2021; Y. Zhang et al., 2021). The research proved that if green Training is given regularly to employees, it may have a positive impact on their minds; it can enhance and develop the environmental safety and security approach and enhance environmental awareness and thus catalyze green organizational Identity (Samadhiya & Agrawal, 2020). Organizations owe it to the current and future generations to make a difference and leave the Earth in a better state. To expect the ideal culture and motivation to ultimately drive the results in protecting the planet, today's leaders must exhibit the necessary emotional and intellectual qualities (Groves, 2006). Therefore, presenting a strategic environmental vision, communicating environmental interpretations, and openly putting it into practice may be advantageous for the environment. Significant environmental corporate variables, such as green transformational leadership, green organizational identity, employee green behavior, emotional intelligence, and green Training, are correlated in this study. Various statistical techniques are used to determine whether the hypotheses are correct(Mittal & Dhar, 2016).

2. Theoretical Framework and Conceptual Model

The 'Social Learning theory' has been considered a foundation for understanding the relationship and interactions between leaders and their followers, according to which followers always respect and revere leaders and hold their beliefs (Liu & Zhao, 2019). Followers always look up to their leaders as role models. They can bring drastic change if leaders take definite actions toward the problem and keep their word, Which will bring

organizational success (Saleem et al., 2021). We also consider 'transformational leadership theory' to explain green transformational leadership (Akiyama et al., 2013). According to the social learning theory, leaders influence followers in a way that causes them to modify their behavior. It assesses how well this relationship works, which will be reflected in the employees' actions. Numerous studies have shown that the most important predictor of environmental performance and green behavior among employees is green transformational leadership (Yang et al., 2020). Transformational leadership has four main components: Intellectual Stimulation, Individualised Consideration, Charisma, and Inspirational Motivation (Prieto et al., 2009). Intellectual stimulation will help followers build creativity that is relevant to cognitive processes. Individualized consideration keeps the communication lines open, pays attention to individual employee needs, and recognizes every individual's unique contribution(Gardner et al., 2012). Through individualized consideration, transformational leaders could inspire group creativity by analyzing the specific needs of followers and offering coaching and consulting to followers, where charisma improves interpersonal connections and motivates employees (George, 2022). The last dimension, 'inspirational motivation,' is where the leaders communicate a compelling vision that inspires and encourages others to perform above expectations. With inspirational motivation, leaders set high follower expectations (Alamelu et al., 2018). Thus, green transformational leadership is pro-environmental transformational leadership, where the four components discussed apply to the environment. Fig 1 will depict the conceptual diagram and hypothesized relationships among variables.
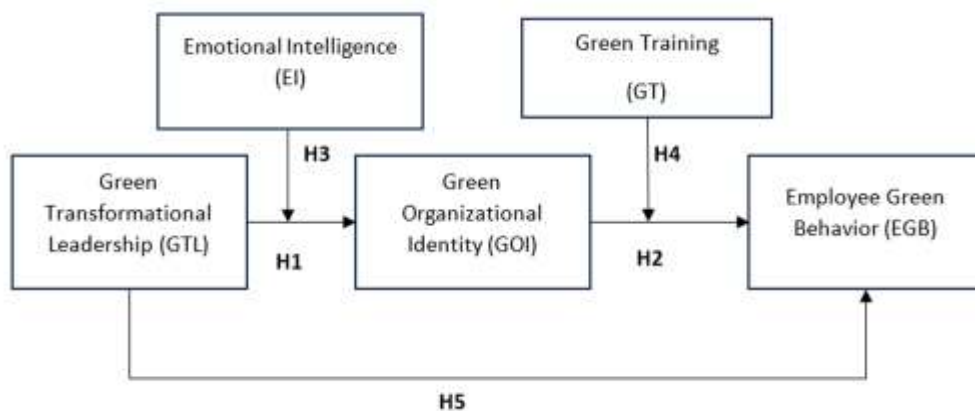

Figure 1. Conceptual diagram that shows the hypothesized relationships among variables

3. Literature Overview

3.1 Green Transformational Leadership:

Leadership styles have, at times, been thoroughly examined from a variety of theoretical perspectives and in a variety of contexts (Sun et al., 2022). Transformational leadership is one of the various leadership styles. When the terms "green" and "transformational leadership" are combined, they may initially appear to be theoretical concepts. However, as environmental issues have gained more attention and activity over time, they have gained significance (Dragomir, 2020). Generally speaking, transformational leadership describes a leader's attributes like behaviors, attitudes, and actions that have the power to govern and control followers' behavior (Begum et al., 2021). The term "green transformational leadership" describes the behaviors of a leader that promote environmental security and safety. It can also manage and govern the green behavior of others. According to Maddock (2013), Green Transformational Leadership also strongly emphasizes bringing people together, inspiring them, and motivating them to work towards the leaders' green vision or goal. In order for followers to willingly assent to leaders with the necessary commitment and zeal, GTL must align followers' will and actions toward environmental protection with the leader's purpose (Putrawan, 2018). In addition to administration or management, green transformational leadership focuses on leaders' attitudes and methods about the environment and ongoing initiatives to preserve and protect it through green innovation (Ahmed et al., 2020). First, GTL sets green goals and promotes innovative thinking among followers and the team (Acosta, 2012). According to scholars, GTL is necessary to persuade followers to exhibit the desired green behavior because of their capacity to internalize processes that affect subordinates and match their green objectives with those of the organization (Deshpande et al., 2024). According to Jabbour & Santos (2008), GTL develops a perspective that shapes its members' opinions, promises, values, and goals regarding their perceived environmental issues. By building the organization's green capability to compete strategically, GTL performs better than anticipated.

Additionally, it raises followers' interest in green issues. Consequently, GTL can increase the organization's edge over competitors (Sun et al., 2022). When one person persuades others to help achieve environmental protection, GTL is dynamic. For their leadership to influence their followers, GTL can establish a conducive environment. According to Mittal and Dhar (2016), they want to fulfill their environmental principles, commitments, and goals.

3.2 Green Organizational Identity

An organization's standard set of values and standards is known as its organizational identity —(Gull & Idrees, 2021). A green organizational identity (GOI) is an interpretive framework for environmental management and protection that members jointly construct to have green conduct, according to Chen (2011). Members collectively create the interpretive phrase "green organizational identity" to give meaning to their activities and behaviors regarding environmental management and conservation (Danilwan et al., 2020). Organizational members create project requirements and visions and implement green initiatives that advance GOI, a continuously changing process —(Jian Zhu et al., 2021).

Organizations are creating models and methods of operation that do not negatively impact the environment beyond a certain threshold as a result of the growing discussion over the years about reducing the carbon footprint on Earth and the accountability and responsibility placed on them to maintain green management practices (Mittal & Dhar, 2016). Members of the organization are encouraged to participate more in environmental commitment behaviors and actions when environmental management is the organization's primary strategic goal and is integrated into its identity as a green organization (Correa et al., 2008).

3.3 Employee Green Behaviour

Employee Green Behaviour refers to staff members' steps to reduce negative environmental consequences and advance environmental sustainability (Peng et al., 2020). EGB is committed to following green activities led by organization leaders. Employee self-concordance is crucial for achieving environmental goals (Gull & Idrees, 2022). New debates and research on EGB look into how to instill green behavior in employees' thoughts and what circumstances are optimal for doing so. Recently, researchers have begun to concentrate on comprehending the primary factors that influence EGB (Davis et al., 2020). When the job requirements, co-worker values, leaders' values, and behavior, along with organizational culture, align with employees' personalities, attitudes, and abilities, they are more likely to engage in green behavior (Cabral & Dhar, 2019)).

3.4 Emotional Intelligence

The broadest definition of emotional intelligence is the ability to identify and control one's own and other people's

emotions (Mayer et al., 2016). According to Mayer et al. (2016), this definition includes the four main EI categories: self-awareness, self-management, social awareness, and relationship management. Every level of management, where team members collaborate to achieve organizational goals, requires emotional intelligence. Workers must comprehend, inspire, educate, and collaborate (Putrawan, 2018). Their performance is evaluated based on how they behave within the company. As a result, organizations are using various EI-based tools to forecast performance while working. The EI of top performers in management roles is substantially higher than that of mediocre performers (Mayer et al., 2016). If followers get frequent emotional appeals or overly sentimental displays, they could perceive their leader as overly frivolous. Overall, research on emotional intelligence and transformational leadership would benefit from empirical investigations that describe the relative contributions of different emotional talents, effectiveness, and organizational change leadership that can create and emotionally express a compelling vision that leads to significant organizational changes regarding the environment is essential in today's turbulent corporate environment(Harris, 2018).

3.5 Green Training

'Green training' teaches workers how to use resources efficiently, reduce waste, save energy, and minimize the causes of environmental degradation (Gull & Idrees, 2021). A competitive advantage will result from implementing environmental practices for improved performance through innovation (Chang & Chen, 2013). Employees who receive green Training are encouraged and more likely to take the initiative. They also follow the organization's green policy and support the leaders' views on environmental security and safety (Deshpande & Srivastava, 2022). By raising awareness, green Training makes workers more environmentally conscious(Srivastava & Shree, 2019)

2. Hypothesis Formulation

H1: Green Transformational Leadership (GTL) and Green Organisational Identity (GOI) correlate positively.

Developing a green organizational identity requires transformational leadership (Mittal & Dhar, 2016). The organization's green organizational identity is reflected when its employees support the leader's green initiative with a positive outlook and believe in the leader's environmental ideas. They then emulate the leader's behavior and remain loyal to the company —(Zhu et al., 2021). Transformational green leadership refers to leaders who can influence

followers to support proactive environmental efforts (Ahmed et al., 2020). Because followers think leaders promote organizational environmental management, GTL has a favorable impact on them (Chen & Chang, 2013). According to Foreman and Whetten (2002), transformational leaders analyze environmental problems, spot dangers, create strategies, and interact with the team. This motivates followers, colleagues, subordinates, and junior/trainee employees to support the organization's philosophy and legacy while providing them with clear environmental objectives. Leaders' green behaviors are carried by and supported by such organizational identity (Teixeira et al., 2012). A green organizational identity is created as a result of transformation. Green leadership's careful consideration of environmental concerns reportedly develops a green organizational identity by creating universally applicable solutions (Srivastava & Shree, 2019).

H2: Green Organizational Identity (GOI) and Green Employee behavior (EGB) correlate positively.

Employees begin adhering to the organization's pro-environmental initiatives when they firmly believe in and support them (Kardoyo et al., 2020). To build a green organizational identity, employees' minds must be captivated by eco-friendly concepts. Their action indicates their sense of affiliation and attitudes toward the organization "(Chakraborty & Biswas, 2020). To establish a green organizational identity, leaders ought to promote environmental ideas in their followers through their environmental initiatives and green organizational activities (Wang et al., 2021). Employee green behavior is sparked by the organization's environmental ideals and principles, which encourage them to adhere to rules inside and outside the company out of a sense of belonging(Zhang et al., 2021). According to Dalvi and Janati (2014), a green organizational identity influences employee behavior and offers a framework for resolving strategic problems. Therefore, an organization's identity affects its staff (Chen, 2011). The aforementioned theory is highlighted in this literature(Dalvi & Janati, 2014).

H3: Emotional Intelligence (EI) moderates the impact of Green Transformational Leadership on Green Organizational Identity

Understanding, controlling, and expressing one's emotions and acting sensibly and empathetically in social situations are all components of emotional intelligence. The capacity of transformational leaders to effectively communicate a change-oriented vision hinges on their ability to accurately

gauge the emotions of their followers (Deshpande & Srivastava, 2022). When leaders have the emotional intelligence to recognize their employees' cognitive processes and modify them for environmental safety, green transformational leadership will significantly influence them –(Niu et al., 2018). One essential component of transformational leadership is emotional expressiveness. They can motivate subordinates and affect organizational transformation (Pendleton & Groves, 2000). According to Hu et al. (2023), emotionally intelligent leaders know their followers' emotional states and monitor their emotional communication.

Similarly, Groves (2000) asserts that leaders who exhibit an intense emotional commitment to transform the organization but disregard the feelings of their followers typically only end up creating turmoil '(Lippincott, 2018). Therefore, the development of a green organizational identity is influenced by emotional intelligence in green transformational leadership (GTL). Assertive pro-environmental behavior is a sign of a green transformational leader with high emotional intelligence committed to creating a green organizational identity (Mittal & Dhar, 2016). The aforementioned theory has been developed based on this material.

H4: Green Training (GT) acts as a catalyst between Green Organizational Identity and Employee green behavior

According to ——Sheehan et al. (2013), Training is an essential component of organizational systems for human resource development. Employers can raise employees' understanding of environmental issues by regularly offering green Training on energy conservation, minimizing environmental degradation to reduce waste, and optimizing resource utilization. When an organization develops sustainability strategies, green Training can be used to implement them and anticipate employee behavioral changes (Mohanty, 2020). In this case, green Training acts as a catalyst because it strengthens employees with a green organizational identity, which in turn encourages green behavior on the part of the employees (Gedam et al., 2021). Green Training helps to maintain a green organizational identity and enforce green behavior by fostering a green mindset in employees (Wu et al., 2019). Employees who receive green Training are more confident in their ability to maintain a green organizational identity through green projects and actions, which encourages green behavior (Deshpande & Srivastava, 2022). Thus, the aforementioned theory has been proposed.

H5: Green Transformational leadership and Employee Green Behavior are positively correlated.

To demonstrate concern for the environment and its preservation, Green Transformational Leadership can directly influence green behavior among employees, which is beneficial for sustainability and well-being (George & Jayakumar, 2019). Additionally, a study conducted on workers in the information technology sector found that when environmental leadership strongly believes in the issue, employees' behavior towards the environment will improve (Akiyama et al., 2013). The change is brought about by the leaders' green deeds and convictions. They reward people for a job well done in an environmentally responsible manner and promote free communication and the sharing of ideas (Malsha et al., 2020). For employees to respond favorably and take action to safeguard the environment by being truthful with the organizational policy, GTL encourages their teammates and colleagues to uphold the policies and instill green ideas in them. Employees maintain their commitment by adhering to the company's green legacy (Chaudhary, 2019). The aforementioned theory is highlighted by the aforementioned literature. Thus, the aforementioned theory has been proposed.

3. Research Methodology

5.1 Sampling and Data Collection

The study was carried out in Indian IT companies, which accurately represent the nation's future demographic due to their diverse range of cultures and genders. For this study, cities with substantial IT hubs that function on a broader scale, such as Bangalore, Hyderabad, Pune, and Mumbai, were selected. Employees from senior-level management, middle-level management, middle-level management, and operational levels were selected to guarantee that the correct mix of respondents representing various cadres, genders, and ethnicities was represented. This study used a positivist (deductive) methodology. The convenience-based sampling approach was used because IT businesses have adopted a hybrid work culture since COVID, and because we do not have access to the whole population of India's metro cities.

To collect data, 280 questionnaires were issued. In order to maintain the quality of the conversion, the questions were created in both Hindi and English. Two different multilingual experts helped with this. Additionally, during the data collection process, employees with at least one year of experience were taken into account to ensure they had had

enough opportunity to interact with their manager or supervisor. They had become familiar with leaders' leadership styles and emotional intelligence. The study's demographic variables included the respondents' age, gender, level of experience, and position within their company. The complete data breakdown is shown in Table 1. For this experiment, we collected data in two steps. The request was initially distributed to 15 IT organizations and other IT specialists.

Google Forms, an online tool for gathering responses, was used to create the structured questionnaire. The human resources department was asked for permission to administer the survey. The questionnaire, cover letters, and objective-oriented presentation were distributed to the human resources departments of fifteen IT businesses. The plan was well received and adopted by 12 IT businesses. Assuring that replies would stay anonymous, and that the study purpose was clearly stated in the letter, we asked the HR/CSR department to send the questionnaires and presentation to the appropriate business emails of employees of different levels. Following the data's refinement by eliminating outliers and missing values, 255 specific responses were obtained in the hopes that participants would find the study meaningful and significant.

Table 1. Demographic characteristics of respondents n=255

Particulars	Description	Values	Percentage
Gender	Female	105	41%
	Male	150	59%
Age (years)	20-30	47	18%
	31- 40	105	42%
	41-50	64	25%
	50+	39	15%
Years of experience	Less than 5	30	11%
	5-10	74	29%
	11-15	98	38%
	16-20	31	12%
	20+	22	8%
Position	Jr./Sr. Software engineer	31	15%
	Jr./Sr.Associate	76	29%
	Manager/Team Lead	89	34%
	Sr. Manager/Sr.Team lead	31	12%
	Directors/Vice-President	20	7%

5.2 Measures

5.2.1 Green Transformational Leadership

The study used a six-item scale created by Chen and Chang (2013) to assess Green Transformational Leadership. Through an online survey, the participants were asked to rate using a 5-point Likert scale. The sample item question was, "The leader inspires the organization's members to collaborate for shared environmental objectives," which gave Cronbach's reliability value of 0.912.

5.2.2 Emotional Intelligence

Emotional intelligence for this study was evaluated on a seven-item scale developed by Palmer, Stough, Harmer, and Gignac in 2009. The measure is named "The Genos Emotional Intelligence Inventory." This measure is designed specifically for workplace application in assessing employees' emotional intelligence. A sample item is "I consider others' feelings in decision-making at work and demonstrate it." The Cronbach's reliability value of this scale was 0.91.

5.2.3 Employee Green Behaviour

Jovita Sherin, George, and Jayakumar (2019) developed a 10-item scale to assess employee green behavior. The sample item is "I help to design policy intervention to facilitate pro-environmental behavior in the organization." Another sample item question is, "I am happy to guide newcomers towards environmental issues and preservation." This scale's Cronbach's reliability value is 0.881.

5.2.4 Green Organizational Identity

Chen and Chang (2013) created a six-item scale to assess Green Organizational Identity for the study. The Sample item question is, "The company's history, environmental management, and protection are things the employees are proud of." The scale's Cronbach's reliability value was 0.90.

5.2.5 Green Training

Tang et al. (2018) created a four-item measure to assess green Training for this study. The sample item of this measure is "We create environmental management training programs to improve employees' environmental awareness, skills, and expertise." In this investigation, the scale's Cronbach's reliability value was 0.825.

5.3 Reliability and Validity

Pilot research was conducted to assess the implacability and practical acceptance of the questionnaire. Clarity and appropriateness are essential before having the entire survey. Various pre-tests were applied to ensure the measures' accuracy, validity, and comprehensiveness. Cronbach alpha was measured to assess the internal consistency of the study. For the pilot study, 45 respondents' responses were considered, and the Cronbach alpha values were higher than the threshold value of 0.7 (Putrawan, 2019). Further, the pilot study indicated that a particular questionnaire can be completed within 7-8 minutes.

These results demonstrated the good internal consistency and dependability of scales applied in this study.

5.4 Common Method Bias

Herman's one-factor test was also applied to check common method bias where all variables are loaded into one factor in EFA. The results yielded that single factor five factors in the model explained 26.37% of the variance, less than 50%.

5.5 Analytical Approach

This study was analyzed individually using SPSS and Microsoft Excel statistical techniques. This helped evaluate and assess the proposed model and empirical findings.

In the beginning, correlation analysis was conducted for the given model variables. This analysis showed the relationship between the variables. Exploratory factor analysis (EFA) was performed to evaluate the measurement model fit, which showed a perfect model fit. The factor loadings were observed accordingly for each construct.

This study included analyzing and assessing convergent and discriminant validity to evaluate the model validity. Composite reliability (CR), standardized factor loading, and AVE of all the constructs used in the model are measured in the table.(Fornell & Larcker, 2018).

The reliability of the construct was verified by the Cronbach alpha /Composite reliability and construct reliability, which is above the acceptable level of 0.70 (Fornell & Larcker, 2018)

Each measurement has larger AVE squared roots than its correlation with the other latent variables, which means the acceptable discriminant validity threshold is also met. Since the results for each construct's row or column did not exceed the value in the diagonal, discriminant validity was achieved.

Table 2 shows that the constructs are intrinsically reliable and consistent with a value of close to 1%. The study has also evaluated the determinants' means, standard deviations, and correlation.

Table 3 showed a high degree of correlation between GTL and EGB and Green Training, between Employee Green Behaviour and Emotional Intelligence, and between Green Training and Emotional Intelligence to a correlation above 0.70. Also, the study showed a high correlation between Green Organizational Identity and Emotional Intelligence; between Green Behaviour and Green Organizational Identity, the correlation levels are between 0.70 and 0.90.

5.6 Test of Hypotheses

The following section contains the validation/nullification of the hypotheses by following the SPSS Macro Model that was carried out —(Hayes, 2015), which was performed to test 1 and 3 hypotheses. This structural model was assessed by calculating P-value, Beta, and t-statistics. The analysis demonstrated that (Age, education, and gender) have not significantly affected employee green behavior. Tables 4 and 5 show the path coefficients (*Beta* with their respective *P*-value and *T*-statistics. It is found that hypotheses H1 and H3 are fully supported. Green transformational leadership has the highest positive significant relationship with Green Organizational Identity (*Beta* =0.743, *t*-value = 6.68, *P*-value =0.001), and EI moderates the effect of GTL on GOI (*Beta*=1.253, *t*-value = 2.11, *P*-value =0.002)

Table 4 shows the direct independent impact of GTL on GOI. As we can observe, the regression results show a positive correlation.

Table 2. Reliability of the constructs and factor loadings of the determinants

Construct	Abbreviations	Factor Loading	AVE	CR	Cronbach Alpha/CR
Green Transformational Leadership (GTL)	GTL1	0.778	0.659	0.894	0.912
	GTL2	0.895			
	GTL3	0.693			
	GTL4	0.897			
	GTL5	0.927			
	GTL6	0.787			
Green Organizational Identity (GOI)	GOI1	0.835	0.697	0.933	0.90
	GOI 4	0.835			
	GOI3	0.835			
	GOI4	0.835			
	GOI5	0.835			
	GOI6	0.835			
Employee Green Behavior (EGB)	EGB1	0.611	0.478	0.89	0.881
	EGB 2	0.578			
	EGB 3	0.379			
	EGB 4	0.456			
	EGB 5	0.417			
	EGB 6	0.567			
	EGB 7	0.453			
	EGB 8	0.623			
	EGB 9	0.413			
	EGB 10	0.307			
Emotional Intelligence (EI)	EI1	0.827	0.588	0.949	0.914
	EI2	0.756			
	EI3	0.762			
	EI4	0.824			
	EI5	0.843			
	EI6	0.817			
	EI7				
	EI8	0.803			
	EI9	0.782			
	EI10	0.699			
Green Training (GT)	GT1	0.499	0.449	0.915	0.912
	GT2	0.499			
	GT3	0.499			
	GT4	0.499			

Notes: N-255 (255 respondents under study)
AVE- Average Variance Extracted

Table 3. Standard Deviation, Correlations, and Means

S. no.	Determinants	Mean	SD	GTL	EI	GOI	GT	EGB
					Correlations and means			
1	GTL	3.98	1.02	0.72	0.14***	0.28***	0.31***	0.12***
2	EI	2.45	0.83		0.71	0.12***	0.32***	0.24***
3	GOI	2.6	1.02			0.81	0.31***	0.17***
4	GT	4.50	0.50				0.73	0.18***
5	EGB	2.47	0.95					0.72

*Note (s): Values in diagonal indicate squared root estimates of AVE estimates*** represents p < 0.001*

It is found that H2 states that Green Organizational Identity positively relates to EGB, which is fully supported (*Beta* =0.563, *t*-value = 2.842, *P*-value =0.04), and H4 which Partially supports that GT moderates the effect of GOI (*Beta*=2.13, *t*-value = 2.221, *P*-value =0.006) where ass H5 supports the relationship between GTL and EGB (*Beta*=0.514, *t*-value = 2.882, *P*-value =0.003). Tables 4 and 5 show paths with a significant positive relationship among the latent variables. The highest significant path relationship was between GTL to GOI and GOI to EGB. Thus, all the H, H2, H3, H4, and H5 are supportive.

Table 4. Regression Results of GTL on GOI with EI as the moderator

Variable	*Beta*	SE	*t*-value	*P*-value
Constant	-1.432	0.324	-4.766	0
Green Transformational Leadership	0.238	0.814	2.92	0.00
EI to GTL Green Organizational Identity regressed directly on Green Leadership.	1.253	0.103	2.11	0.002
Constant	-0.346	0.452	-0.766	0.004
GTL to GOI	0.743	0.111	6.68	0.001

Notes: N=255, SE-Standard Error

Table 5: Regression Results of GOI on EGB with GT as the moderator variable

Variable	*Beta*	SE	t-value	P-value
Constant	-7.2	0.61	-2.381	0.0
Green organizational Identity	0.49	0.27	3.392	0.001
GT to GOI	2.13	0.14	2.221	0.01
Interaction (Green Organizational identity x Training) Employee Green Behaviour regressed directly on Green Organizational Identity.	-0.354	0.0585	-2.203	0.01
Constant	0.108	0.109	3.278	0.0
GOI to EGB Employee Green Behaviour regressed directly on Green Leadership	0.563	0.038	2.842	0.04
Constant	0.439	0.303	3.448	0.0
GTL to EGB	0.514	0.074	2.882	0.003

6. Theoretical Implication

The study has theoretical significance. The strategies and initiatives created under HRD practices and supervised by leaders determine the organization's overall effectiveness in implementing green practices. The goal of HRD practices, according to Nakra and Kashyap (2023), is to increase employees' potential contributions through learning and environmental approach development. This study backed up Gull and Idrees's (2021) research, which demonstrated a beneficial relationship between GTL and HRD practices. Additionally, green Training creates a green organizational identity and assesses how employees behave environmentally while printing, using reusable materials, choosing compostable products, handling e-waste, recycling, using reusable cutlery, and using environmentally friendly methods to meet environmental targets.

The findings supported the social learning hypothesis, which holds that workers imitate their leaders' green initiatives (Xiao Hu et al., 2023; Sun et al., 2022). Furthermore, this study's findings corroborated those of Xiao Hu et al. (2023) and Mysirlaki and Paraskeva (2020), who found that when GTL and EI interacted, the resulting favorable effect on GOI was amplified. Mittal and Dhar (2016), who proposed the GOI view for green creativity to meet environmental goals, also supported this finding. Since employees by themselves will not be acting environmentally friendly, they are strategically focused on developing the employees' organizational identity. Chen and Yan's (2022) study, on the other hand, disputes the association, claiming that GTL predicts human resource development.

Additionally, the study backed up Song and Yu's (2018) assertion that GOI can be demonstrated by employees who support green initiatives, engage in green creativity, and feel proud of the organization's environmental legacy. Green Training can improve the quality of employee behavior; leaders support and guide these programs to increase green behavior to accomplish organizational goals. There is a positive correlation between GTL and EGB, according to the study of Al-Swidi et al. (2021). With ongoing environmental Training, HRD interventions serve to improve employees' performance and capabilities (Otoo et al., 2019). Additionally, the results validated the Cahyadi et al. (2023) study.

According to Srivastava and Shree (2019), Nakra and Kashyap (2023), and Joshi and Dhar (2020), GT is essential in encouraging staff members to participate in HRD-planned green initiatives. According to the data, GT increases the impact of GOI, which is reflected in the green behavior of its employees. (Cahyadi et al., 2023; Deshpande and Srivastava, 2022). Human Resource Development (HRD) thus actively emphasizes ongoing engagement in environmental practices through various green training programs, as demonstrated by numerous studies. The study's results contribute to the body of knowledge on the topic and provide various options for resolving the environmental problem through enhancing employee green behavior.

2. Managerial Implications

When planning the grid for the next several years, managers need to devote resources to reaching eco-friendly goals. They can encourage appropriate e-waste management, recycling, and reuse. To keep the projects on track, teams can be established, goals can be created, and progress can be tracked on a regular basis. The organization might start by setting SMART goals. Specific, Measurable, Achievable, Relevant, and Time-bound are the acronyms for SMART goals. For instance, "In the next two years, reduce the amount of electronic waste produced by hardware upgrades by 20%" is an example of a specific SMART target that is measurable.

such as a 20% decrease in electronic waste. It will be possible when IT staff learn practical strategies like hardware life cycle management, e-recycling, installing energy-efficient hardware, refurbishing and reusing outdated hardware, cloud computing, virtualization, supplier cooperation with a recycling program, monitoring, and reporting. With a clear two-year time limit to meet the target, the objective is relevant in that it aligns with the IT sector's need to reduce electronic waste and advance environmental sustainability. They have the authority to decide whether to invest in renewable energy sources to run operations and data centers. To demonstrate their commitment to sustainability, some IT companies sought to obtain green certifications, such as LEED (Leadership in Energy and Environmental Design), for their offices and data centers.

IT organizations will also be able to monitor energy use through the use of Energy Monitoring Management (EMM) solutions. GTL can contribute to meeting the environmental goals of its stakeholders and winning their support for the management's environmental vision (Peng et al., 2020).

3. Practical Implication

Our findings indicate that Indian IT companies are developing environmentally sustainable green initiatives. Setting ambitious environmental goals like minimizing e-waste, properly disposing of it in an environmentally friendly manner, using automated power management systems, being carbon neutral, using less plastic, and implementing a green credit program to encourage green behavior in employees are all important to them. Additionally, green transformational leaders are choosing to invest in green infrastructure and energy-renewable projects like solar and wind to increase the share of clean energy. Through green Training, GTL effectively educates staff members about environmental safety and security and motivates them to adopt energy-efficient practices.

Through GT, they are effectively influencing the idea of environmental conservation and protection. IT corporations have taken a few steps to lessen this environmental damage. IBM recently pledged to have zero net greenhouse gas emissions by 2030 and to get most of its power and electricity from renewable sources by 2025. In an effort to conserve paper, Infosys has banned excessive office printer use. Companies such as Tata Consultancy Services (TCS) have also instituted a policy that encourages employees to bring their own tea or coffee mug and plate to work rather than plastic cups and plates. By putting in place a number of energy-saving initiatives, capital improvement projects, and carbon credits, Honeywell hopes to achieve carbon neutrality by 2035.

Wipro uses energy-efficient hardware and cooling technologies, such as Green Desktop, in accordance with sustainable principles. Such programs will encourage employee responsiveness and support environmental sustainability. The leaders can establish a "Green Cell" where all green projects will be debated and carried out continuously.

4. Future Research Implications

Given the significance of environmental safety and protection, the organization's employees must abide by the rules and directives provided by the leaders to maintain environmental sustainability. If the mediating effects of green organizational identity on employee green behavior are confirmed, future research will be significantly impacted. Creating green training programs for staff members requires constant and focused attention, and their diligent execution would be greatly appreciated.

. The influence of HRD methods, such as Green training, learning, and development—which involves educating employees on the organization's core competencies about environmental policy—is comparatively greater. Through Training and development, employees' perceptions and knowledge of the environment can be improved, raising awareness of the need to lower carbon footprints. Employees are more inclined to engage in green initiatives when the organization is fully committed to providing resources. Employees learn and comprehend environmental values through ongoing environmental knowledge transfer, which improves their green behavior. Employees' transformation into green actions will be significant for leaders who wish to accomplish the organization's environmental goals. When GTL is developed with emotional intelligence, it will occur.

In order to better understand the elements influencing employee green behavior, a longitudinal study is necessary. Consequently, it is recommended that additional research be done about other sectors. In order to fully comprehend the difficulties in achieving improved environmental performance, it is also advised to carry out a longitudinal study with a bigger sample size in a setting different than India. In order to achieve sustainable and effective organizational performance, more research could also consider a variety of mediators and moderators overlooked for effective environmental performance, such as green organizational citizenship, green organizational culture, resource commitment, green innovation, green HRM, and green dynamic capabilities.

5. Conclusion

According to the study's findings, employee green behavior and green transformational leadership are significantly correlated. The organization expects people to behave differently if transformational leaders take the initiative, grasp environmental issues, and set an example for their workforce. To help followers and staff members get familiar with the working system that can protect the environment, leaders can provide various examples. Environmentally conscious businesses are recognized by green transformational leaders, and by establishing a green organizational identity, their emotional intelligence is essential to putting their ideas into practice among their followers.

Their green thinking penetrates the employees' awareness and sensitivity. Green Training fosters it, and eventually, green behavior from employees reflects this. Taking minor

steps to comply with environmental regulations can result in significant organizational benefits to the environment. Transformational green leadership has been demonstrated to be influenced by a leader's emotional intelligence, as evidenced by the successful development of a green organizational identity among followers or employees by leaders with high emotional intelligence. These workers carry out and oversee leaders' actions since their ideas inspire and motivate them.

Therefore, if employees receive green training sessions and seminars about environmental safety and environmental Dos and Don'ts, they will progressively acquire the GOI, which will be followed by employee green behavior. After making policy decisions, workers will start caring about the environment. Green Training will raise awareness among employees by providing recommendations on how to preserve, protect, conserve, and improve the environment. As a result, they will adopt what is known as employee green behavior—a comprehensive environmental strategy through actions and behavior. The study provides empirical evidence for a distinct relationship between the factors influencing employee green behavior. Green transformational leadership is essential when determining if an employee would be motivated to save the environment.

 A key component in determining the ultimate behavior of employees is the influence that green leadership has on their thoughts. Ultimately, all activities originate from the leader's desire to guide a conversation or a vision toward ensuring eco-friendly efforts, even though emotional intelligence and green Training also play a part in behavior. It has been demonstrated that GT leaders' emotional intelligence may motivate staff to preserve the environment, encourage colleagues to abide by the company's environmental policy, and notice changes in employee conduct. High EI leaders can comprehend the environmental values held by their followers. They could change them to make the environment more sustainable.

6. Study Limitations

It is necessary to address the limitations that were encountered during this investigation. First, the study focuses on the IT companies operating in the chosen region of India; a more thorough investigation can also be conducted in other sectors. In order to validate and generalize the study's findings with other intervening mediators and moderator factors, such research must be conducted in various sectors and businesses in the future, including manufacturing, banking, hotels, tourism, and

airlines. Second, when examining the relationship between green transformational leadership and green behavior among employees, cultural aspects were not taken into account. Additionally, when examining the relationship between the components under investigation, research can consider that aspect.

References:

Acosta, G. Y. (2012). Environmentalism. In *The Routledge Companion to Latino/a Literature*. https://doi.org/10.4324/9780203097199-27

Ahmed, U., Mozammel, S., & Zaman, F. (2020). Green hrm and green innovation: Can green transformational leadership moderate: Case of pharmaceutical firms in Australia. *Systematic Reviews in Pharmacy*, *11*(7), 612–617. https://doi.org/10.31838/srp.2020.7.86

Akiyama, T., An, K. J., Furumai, H., & Katayama, H. (2013). The concept of environmental leader. In *Environmental Leadership Capacity Building in Higher Education: Experience and Lessons from Asian Program for Incubation of Environmental Leaders* (Vol. 9784431543). https://doi.org/10.1007/978-4-431-54340-4_2

Alamelu, R., Amudha, R., Priyadharshini, G., Shreenivasan, K. A., & Visvanaath, M. (2018). Green HR Communication Practices in Software Companies-An Employees Insight. *7th IEEE International Conference on Computation of Power, Energy, Information and Communication, ICCPEIC 2018*, 113–116. https://doi.org/10.1109/ICCPEIC.2018.8525163

Aragón-Correa, J. A., Hurtado-Torres, N., Sharma, S., & García-Morales, V. J. (2008). Environmental strategy and performance in small firms: A resource-based perspective. *Journal of Environmental Management*, *86*(1), 88–103. https://doi.org/10.1016/j.jenvman.2006.11.022

Begum, S., Ashfaq, M., Xia, E., & Awan, U. (2021). Does green transformational leadership lead to green innovation? The role of green thinking and creative process engagement. *Business Strategy and the Environment*. https://doi.org/10.1002/bse.2911

Cabral, C., & Lochan Dhar, R. (2019). Green competencies: Construct development and measurement validation. *Journal of Cleaner Production*, *235*, 887–900. https://doi.org/10.1016/j.jclepro.2019.07.014

Chakraborty, D., & Biswas, W. (2020). Going green with green HRM practices - A strategic initiative for reinvigorating company performance optimization. *Prabandhan: Indian Journal of Management*, *13*(10–11), 8–26. https://doi.org/10.17010/PIJOM/2020/V13I10-11/156006

Chaudhary, R. (2019). Green human resource management in the Indian automobile industry. *Journal of Global Responsibility*, *10*(2), 161–175. https://doi.org/10.1108/JGR-12-2018-0084

Chen, Y. S. (2011). Green organizational identity: Sources and consequence. *Management Decision*, *49*(3), 384–404. https://doi.org/10.1108/00251741111120761

Chen, Y. S. Y.-S., & Chang, C. H. C.-H. (2013). The Determinants of Green Product Development Performance: Green Dynamic Capabilities, Green Transformational Leadership, and Green Creativity. *Journal of Business Ethics*, *116*(1), 107–119. https://doi.org/10.1007/s10551-012-1452-x

Dalvi, M. R., & Janati, S. (2014). The study of the effect of green organizational identity on green innovation. *Advances in Environmental Biology*, *8*(25), 450–458.

Danilwan, Y., Isnaini, D. B. Y., Pratama, I., & Dirhamsyah. (2020). Inducing Organizational Citizenship Behavior through Green Human Resource Management Bundle: Drawing Implications for Environmentally Sustainable Performance. a Case Study. *Journal of Security and Sustainability Issues*, *10*(Oct), 39–52. https://doi.org/10.9770/jssi.2020.10.Oct(3)

Davis, M. C., Unsworth, K. L., Russell, S. V., & Galvan, J. J. (2020). Can green behaviors really be increased for all employees? Trade-offs for "deep greens" in a goal-oriented green human resource management intervention. *Business Strategy and the Environment*, *29*(2), 335–346. https://doi.org/10.1002/bse.2367

Deshpande, P., Srivastava, A., Kulkarni, M., & Lenka, R. (2024). Impact of Green Transformational Leadership on Employee Green Behavior/ : A PLS-SEM Approach. *Prabandhan: Indian Journal of Management*, *17*(2), 24–43. https://doi.org/10.17010/PIJOM/2024/V17I2/173139

Deshpande, P., & Srivastava, A. P. (2022). A study to explore the linkage between green Training and sustainable organizational performance through emotional intelligence and green work-life balance. *European Journal of Training and Development*, *47*(5–6), 615–634. https://doi.org/10.1108/EJTD-11-2021-0182

Dragomir, V. D. (2020). Ethical Aspects of Environmental Strategy. In *SpringerBriefs in Applied Sciences and Technology*. https://doi.org/10.1007/978-3-030-29548-6_3

Fornell, C., & Larcker, D. F. (2018). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics: *Https://Doi.Org/10.1177/002224378101800313*, *18*(3), 382–388. https://doi.org/10.1177/002224378101800313

Gardner, P., Katagiri, K., Parsons, J., Lee, J., & Thevannoor, R. (2012). "Not for the fainthearted": Engaging in cross-national comparative research. *Journal of Aging Studies*, *26*(3), 253–261. https://doi.org/10.1016/J.JAGING.2012.02.004

Gedam, V. V., Raut, R. D., Priyadarshinee, P., Chirra, S., & Pathak, P. D. (2021). Analyzing the adoption barriers for sustainability in the Indian power sector by DEMATEL approach. *International Journal of Sustainable Engineering*, *14*(3), 471–486. https://doi.org/10.1080/19397038.2021.1874072

George, F. P. (2022). Natural convergence of sustainability, governance and responsibility: a case study on CIAL: India's Green Port. *International Journal of Innovation and Sustainable Development*, *16*(2), 214–223. https://doi.org/10.1504/IJISD.2022.121849

George, J. S., & Jayakumar, K. N. (2019). Development and validation of employee green behavior scale (EGBS) for IT professionals in India. *International Journal on Emerging Technologies*, *10*(4), 32–37. www.researchtrend.net

George, J. S., & Jayakumar, K. N. (2020). The demographics of employee green behavior among professionals. *International Journal of Scientific and Technology Research*, *9*(4), 13–16.

Groves, K. S. (2006). Leader emotional expressivity, visionary leadership, and organizational change. *Leadership and Organization Development Journal*, *27*(7), 565–582. https://doi.org/10.1108/01437730610692425

Gull, S., & Idrees, H. (2021). Green Training and organizational efficiency: the mediating role of green competencies. *European Journal of Training and Development*, *46*(1–2), 105–119. https://doi.org/10.1108/EJTD-10-2020-0147

Harris, T. C. (2018). George Washington: a revolutionary approach to leadership. *Leadership and Organization Development Journal*, *39*(8), 995–1009. https://doi.org/10.1108/LODJ-11-2017-0367

Hayes, A. F. (2015). An Index and Test of Linear Moderated Mediation. *Multivariate Behavioral Research*, *50*(1), 1–22. https://doi.org/10.1080/ 00273171. 2014.962683

Jabbour, C. J. C., & Santos, F. C. A. (2008). Relationships between human resource dimensions and environmental management in companies: proposal of a model. *Journal of Cleaner Production*, *16*(1), 51–58. https://doi.org/10.1016/ j.jclepro. 2006.07.025

Jiang, H., Wang, K., Lu, Z., Liu, Y., Wang, Y., & Li, G. (2021). Measuring green creativity for employees in green enterprises: Scale development and validation. *Sustainability (Switzerland)*, *13*(1), 1–16. https://doi.org/10.3390/su13010275

Kardoyo, K., Feriady, M., Farliana, N., & Nurkhin, A. (2020). Influence of the Green Leadership Toward Environmental Policies Support. *Journal of Asian Finance, Economics and Business*, *7*(11), 459–467. https://doi.org/10.13106/jafeb.2020.vol7.no11.459

Khan, A., Tao, M., Ahmad, H., Shafique, M. N., & Nawaz, M. Z. (2020). Revisiting Green Supply Chain Management Practices: The Mediating Role of Emotional Intelligence: *https://Doi.Org/10.1177/ 2158244020914637*, *10*(1).

Lippincott, M. (2018). Deconstructing the relationship between mindfulness and leader effectiveness. *Leadership and Organization Development Journal*, *39*(5), 650–664. https://doi.org/10.1108/LODJ-11-2017-0340

Liu, L., & Zhao, L. (2019). The Influence of Ethical Leadership and Green Organizational Identity on Employees' Green Innovation Behavior: The Moderating Effect of Strategic Flexibility. *IOP Conference Series: Earth and Environmental Science*, *237*(5). https://doi.org/10.1088/1755-1315/237/5/052012

Maddock, R. T. (2013). Japan and global environmental leadership. In *Japan's Role in International Politics since World War II* (Vol. 13, Issue 4). https://doi.org/ 10.1007/BF03023311

Made Putrawan, I. (2018). Predicting environmental leadership based on personality and its construct validity. *International Journal of Engineering and Technology(UAE)*, *7*(4), 92–95. https://doi.org/ 10.14419/ijet.v7i4.28.22398

Made Putrawan, I. (2019). Pro-environmental behavior (PEB) and its related factors' construct validity. *Journal of Advanced Research in Dynamical and Control Systems*, *11*(9 Special), 362–370. https://doi.org/10.5373/JARDCS/V11/20192580

Malsha, K. P. P. H. G. N., Anton Arulrajah, A., & Senthilnathan, S. (2020). The mediating role of employee green behavior towards sustainability performance of banks. *Journal of Governance and Regulation*, *9*(2), 92–102. https://doi.org/ 10.22495/jgrv9i2art7

Mansoor, A., FarrukJ.-K., Lee, J.-K., & Jahan, S. (2021). Stimulation of employees' green creativity through green transformational leadership and management initiatives. *Sustainability (Switzerland)*, *13*(14). https://doi.org/10.3390/su13147844

Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The Ability Model of Emotional Intelligence: Principles and Updates. *Emotion Review*, *8*(4), 290–300. https://doi.org/10.1177/1754073916639667

Mittal, S., & Dhar, R. L. (2016). Effect of green transformational leadership on green creativity: A study of tourist hotels. *Tourism Management*, *57*, 118–127. https://doi.org/10.1016/ j.tourman. 2016.05.007

Mohanty, S. (2020). Impact of E-HRM system on user satisfaction in the hotel industry. *International Journal of Scientific and Technology Research*, *9*(4), 1199–1201.

Napathorn, C. (2021). The development of green skills across firms in the institutional context of Thailand. *Asia-Pacific Journal of Business Administration*. https://doi.org/10.1108/APJBA-10-2020-0370

Niu, X., Wang, X., & Xiao, H. (2018). What motivates environmental leadership behavior–an empirical analysis in Taiwan. *Journal of Asian Public Policy*, *11*(2), 173–187. https://doi.org/10.1080/ 17516234.2017.1353940

Parng, Y.-J., Kurrahman, T., Chen, C.-C., Tseng, M. L., Minh Hà, H., & Lin, C.-W. (2021). Visualizing the hierarchical sustainable human resource management under qualitative information and complex interrelationships. *Management of Environmental Quality: An International Journal*, *32*(6), 1422–1447. https://doi.org/10.1108/MEQ-04-2021-0086

Pendleton, S., & Groves, S. W. (2000). Environmental leadership - What is in it for you? *TAPPI Proceedings - Environmental Conference and Exhibit*, *2*, 781–788.

Peng, J., Yin, K., Hou, N., Zou, Y., & Nie, Q. (2020). How to facilitate employee green behavior: The joint role of green transformational leadership and green human resource management practice. *Acta Psychologica Sinica*, *52*(9), 1105–1120. https://doi.org/10.3724/SP.J.1041.2020.01105

Prieto, L. C., Gilmore, J., & Osiri, J. K. (2009). Environmental leadership development: A framework for designing and evaluating a training program. *European Journal of Social Sciences*, *9*(4), 586–593.

Saleem, M., Qadeer, F., Mahmood, F., Han, H., Giorgi, G., & Ariza-Montes, A. (2021). Inculcation of green behavior in employees: A multilevel moderated mediation approach. *International Journal of Environmental Research and Public Health*, *18*(1), 1–21. https://doi.org/10.3390/ijerph18010331

Samadhiya, A., & Agrawal, R. (2020). Achieving sustainability through holistic maintenance is key to competitiveness. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, *0*(March), 400–408.

Sheehan, M., Garavan, T. N., & Carbery, R. (2013). Innovation and human resource development (HRD). *European Journal of Training and Development*, *38*(1–2), 2–14. https://doi.org/10.1108/EJTD-11-2013-0128/FULL/PDF

Srivastava, A. P., & Shree, S. (2019). Examining the effect of employee green involvement on the perception of corporate social responsibility: The moderating role of green Training. *Management of Environmental Quality: An International Journal*, *30*(1), 197–210. https://doi.org/10.1108/MEQ-03-2018-0057

Sun, X., Askary, A. El, Meo, M. S., Ul, N., Zafar, A., & Hussain, B. (2022). *Green transformational leadership and environmental performance in small and medium enterprises*. https://doi.org/10.1080/1331677X.2021.2025127

Wang, S., Yin, J., & Zhu, X. (2021). Heterogeneous choices of environmental strategies for heavily polluting firms under institutional pressure in China. *Environmental Science and Pollution Research*. https://doi.org/10.1007/s11356-021-16090-9

Wu, P.-J., Wu, T.-J., & Yuan, K.-S. (2019). "Green" information promotes employees' voluntary Green Behavior via work values and perceived accountability. *Sustainability (Switzerland)*, *11*(22). https://doi.org/10.3390/su11226335

Yang, L., Jiang, Y., Zhang, W., Zhang, Q., & Gong, H. (2020). An empirical examination of individual green policy perception and green behaviors. *International Journal of Manpower*, *41*(7), 1021–1040. https://doi.org/10.1108/IJM-09-2019-0455

Zhang, W., Xu, R., Jiang, Y., & Zhang, W. (2021). How environmental knowledge management promotes employee green behavior: An empirical study. *International Journal of Environmental Research and Public Health*, *18*(9). https://doi.org/10.3390/ijerph18094738

Zhang, Y., Zhang, Z., & Jia, M. (2021). When and Why Perceived Organizational Environmental Support Fails to Work: From a Congruence Perspective. *Management and Organization Review*. https://doi.org/x10.1017/mor.2021.11

Zhu, J, Tang, W., Wang, H., & Chen, Y. (2021). The influence of green human resource management on employee green behavior—a study on the mediating effect of environmental belief and green organizational identity. *Sustainability (Switzerland)*, *13*(8). https://doi.org/10.3390/su13084544

Zhu, Jian, Tang, W., Wang, H., Chen, Y., & Vandenberghe, C. (2021). The influence of green human resource management on employee green behavior—a study on the mediating effect of environmental belief and green organizational identity. *Sustainability (Switzerland)*, *13*(8). https://doi.org/10.3390/su13084544

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Drivers Influencing Sustainable Apparel Purchase Intention: The Role of Eco-Awareness, Past Sustainable Behaviour, and Peer Influence

Dr. Vaishali Pardeshi
Assistant Professor,
Kohinoor Business School Mumbai
Email: vaishaliincthane@gmail.com

Dr. Hemant Pardeshi
Lecturer Electronics Engineering,
Government Polytechnic Mumbai
Email: pardeshi.ju@gmail.com

Dr. Vandana Tandon Khanna
K J Somaiya Institute of Management,
Somaiya Vidyavihar University, Mumbai

Abstract

This empirical study examines how eco-awareness, peer influence, and past sustainable behaviour shape consumers' intentions to buy sustainable apparel in India. To explore the role of price consciousness as a moderating factor, 518 respondents were surveyed. Using Structural Equation Modelling and Regression Analysis, the study finds that eco-awareness and past sustainable behaviour significantly impact purchase intentions. Additionally, price consciousness strengthens the link between eco-awareness, past sustainable behaviour, and purchase intent but does not affect peer influence. The findings offer key insights for policymakers and businesses looking to promote sustainability in the apparel industry, suggesting targeted awareness campaigns, pricing strategies, and consumer engagement initiatives.

Keywords: *Sustainable Apparel, Purchase Intentions, Eco-Awareness, Peer Influence, Past Sustainable Behaviour, Price Consciousness, Consumer Behaviour, Sustainability*

1. Introduction

The emergence of industrialisation and globalisation has fostered economic advancement, driving a rapid expansion in consumption patterns alongside a surge in environmental challenges. This shift in consumption dynamics has exacerbated environmental issues such as pollution and climate change (Chen & Chang, 2013). Heightened awareness of environmental problems, coupled with an increasing environmental consciousness and adoption of sustainable attitudes, has fuelled a rising demand for sustainable merchandise (Chen & Chang, 2013). Sustainable products contribute to ecological well-being, promote economic prosperity, and prioritise human health and environmental integrity throughout their production lifecycle. The present generation is increasingly gravitating towards sustainable products owing to their potential to reduce carbon emissions, conserve natural resources, and mitigate waste accumulation in landfills.

The rationale behind selecting Indian consumers originates from several key factors: rising income levels, e-commerce expansion, and rapid urbanisation. The apparel sector plays a prominent role in India's economy, with per capita apparel expenditure projected to rise from INR 3,100 in 2015 to INR 8,000 by 2025 (Amed, 2021). Overall, Indian apparel spending is expected to reach INR 11.7 Lakh Crores by 2025, making India one of the largest global apparel markets, following China and the USA. However, this growth has environmental consequences, including resource depletion, higher greenhouse emissions, and an increased carbon footprint per garment (Hubacek et al., 2007). To address these issues, various stakeholders-governments, businesses, NGOs, and consumers- are working to promote sustainable apparel. Sustainable apparel manufacturing emphasises environmentally friendly processes that reduce resource consumption (Henninger et al., 2016). This growing movement is driven by increasing awareness of sustainable fashion and its long-term benefits (Mello, 2021).

Despite the rising popularity of sustainability, actual consumer adoption of sustainable apparel in India remains limited (Rathinamoorthy, 2019). Many Indian consumers hesitate to buy sustainable apparel, perceiving it as expensive, lacking variety, or being inferior in quality and durability (Sandhya & Mahapatra, 2018). Therefore, recognising the factors that impact the buying intentions is crucial.

Some studies on Indian consumers have examined how demographic factors influence sustainable buying (Srean et al., 2016; Mishal et al., 2018; Jaiswal et al., 2015), while others have explored attitudes, social norms, and consumption values (Joshi & Rahman, 2017; Yadav & Pathak, 2017). However, there are very few studies that have investigated the role of peer influence, eco-awareness, and past sustainable behaviour in shaping purchase intentions for sustainable apparel. This study aims to address that gap.

Sustainable products, despite their benefits, often carry a premium price. Consumers in developing economies such as India are particularly price-conscious, making cost a significant factor in their purchase decisions. While research in Western economies suggests that price consciousness influences sustainable buying behaviour (Erdil, 2018; Ghali-Zinoubi, 2020; De Mooij & Hofstede, 2011), findings on its impact in India are inconsistent. Certain studies suggest that increased prices weaken the relationship between eco-awareness and purchase intentions (Tudu & Mishra, 2021), whereas some believe that price may not be a significant barrier to sustainable apparel purchases (Khaleeli et al., 2021). This necessitates further exploration into the moderating role of price consciousness in sustainable apparel purchases.

The research primarily aims at:

1. To examine the factors influencing purchase intentions for sustainable apparel in India.

2. To investigate how price consciousness moderates the relationship between these factors and purchase intentions.

2. Theoretical Background and Hypotheses

Research in developed countries has examined how individual characteristics, experiences, and social pressures drive consumer behaviour toward eco-friendly products (Chaudhary & Bisai, 2018; Fraj & Martinez, 2006; Dangi et al., 2020; Lasuin & Ng, 2014). Similarly, the impact of societal influences on the desire to purchase sustainable goods has been examined (Srean et al., 2016; Panda et al., 2020).

This study intends to explore the factors influencing Indian consumers' willingness to buy sustainable clothing. Specifically, it explores the influence of Eco-awareness, peer pressure, and past sustainable behaviour on purchase intentions. Additionally, it examines how price sensitivity interacts with these relationships. This focus on the Indian

market and the context of sustainable apparel represents a unique contribution to the existing literature. The following section will discuss the variables employed in this research.

2.1 Eco-awareness

This study examines the influence of Eco-awareness on consumer choices regarding sustainable clothing. Eco-awareness refers to a consumer's awareness of environmental issues like pollution caused by hazardous chemicals, dyes, and greenhouse gases used in garment production (Ali et al., 2020). While some research suggests a positive link between Eco-awareness and sustainable purchasing behaviour, with environmentally conscious consumers demonstrating a growing preference for eco-friendly products (Chen, 2013; Bamberg & Möser, 2007; De Medeiros et al., 2016; Hanson-Rasmussen & Lauver, 2018; Aman et al., 2013; Mei et al., 2014), other studies by Henning & Karlsson (2011) contradict these findings. This inconsistency highlights the growing requirement for more in-depth study on the relationship between Eco-awareness and sustainable apparel purchasing decisions. The latest research has similarly expanded the understanding of Eco-awareness in consumer behaviour, highlighting the growing importance of consumer awareness in rapidly expanding economies like India (Kumar & Sharma, 2022).

H1: **Eco-awareness has a significant impact on sustainable apparel purchase intentions.**

2.2 Peer Influence

The effect of Peer Influence on consumers' sustainable buying behaviour has been elucidated in various studies. Cheah and Phau (2005) highlighted how interaction with individuals and peer groups affects shoppers' thoughts, feelings, and attitudes. Similarly, Jansson et al. (2010) identified social acceptance, peer influence, and environmental awareness as key factors shaping sustainable purchasing decisions. Hafez (2017) further emphasised the role of relatives, friends, salespersons, and celebrities in inspiring sustainable buying behaviour. Lee et al. (2009) corroborated these findings by establishing Peer Influence as an important predictor of sustainable buying behaviour among adolescents. Conversely, while some research supports the pivotal role of Peer Influence in driving sustainable buying intentions, others, such as Stephens (1985) and Yamoah & Acquaye (2019), have contested this notion. Newer studies have taken a closer look at the evolution of Peer Influences, especially with the rise of digital platforms and influencers, which have become

crucial in shaping purchasing decisions among younger consumers (Gupta & Verma, 2023).*H2:* Peer Influence has a significant impact on sustainable apparel purchase intentions.

2.3 Past Sustainable Behaviour

Previous behaviour refers to an individual's actions or reactions to stimuli, whether internal or external, in preceding situations (Sommer, 2011). Past purchasing behaviour encompasses the habitual and routine actions undertaken by consumers in their daily transactions (Sommer, 2011). The historical engagement in sustainable product purchases is likely to shape consumers' propensity to buy sustainable apparel. Research conducted by Lanzini and Thøgersen (2014) shows that individuals who have previously participated in pro-environmental actions are more inclined to engage in similar behaviours in the future. Furthermore, Norum and Ha-Brookshire (2011) discovered that consumers' prior experiences with sustainable products across different categories influence their willingness to purchase sustainable apparel. D'Souza et al. (2006) demonstrated that shoppers' past encounters with sustainable products significantly impact their future decisions regarding sustainable purchases. Recent studies also emphasise the role of continuous engagement and past behaviour in predicting future sustainable consumption, providing further evidence of its influence on purchase intentions (Kumar & Sharma, 2022).

H3: Past sustainable behaviour has a significant impact on sustainable apparel purchase intentions.

2.4 Price Consciousness

Price significantly influences consumers' product evaluations and purchasing intentions, as highlighted by Chen et al. (2016). Within marketing literature, price consciousness is referred to as consumers' tendency to favour lower prices over higher ones, as articulated by Lichtenstein et al. (1993). This concept emphasises sensitivity to price discrepancies and serves as an internal threshold for consumers' spending limits. Notably, sustainable apparel typically commands higher prices compared to conventional alternatives (Byelaws & Gr bosz-Krawczyk, 2021). High price-conscious consumers exhibit a tendency to take part in price comparisons at an increased rate compared to their low price-conscious counterparts, as observed by Biswas and Alford (2002). Collectively, existing literature indicates that price plays a pivotal role in influencing consumers'

intentions to purchase sustainable apparel. Consumers from emerging economies are generally price-conscious. The price of sustainable products is generally much higher than that of traditional products. Thus, based on this assumption, price is a key factor in making a purchase decision for a sustainable product. Some earlier researchers have tried to study the moderating role of price on sustainable buying intention (Khaleeli et al., 2021; Chekima et al., 2016). However, few studies have been carried out in India. The study by Chaudhary and Bisai (2018) showed that readiness to shell out more moderated the association of sustainable product buying intention. The study by Tudu and Mishra (2021) noted that even though consumers had Eco-awareness and concern, price was a barrier when buying sustainable products. Considering the immense market potential for sustainable apparel in India, it is essential to investigate the impact of price consciousness as a moderating variable. Previous research assessing the contribution of price as a moderator for sustainable goods purchase intentions has yielded inconclusive findings. Hsu et al. (2017) observed that price sensitivity positively influences the relationship between purchase intentions of

sustainable skincare products. Similarly, Wang (2020) found that price moderates the intentions to purchase green-trust and green-merchandise. Conversely, Chekima et al. (2016) concluded that higher prices do not serve as a moderator or barrier for purchasing sustainable products. Given the conflicting outcomes of these studies, a comprehensive investigation is warranted. Emerging research in India has highlighted the significant role of price sensitivity in moderating the relationship between consumer awareness and the choice to purchase sustainable fashion (Gupta & Verma, 2023).

H4: Price-consciousness moderates the association between eco-awareness and purchase intentions of sustainable apparel.

H5: Price-consciousness moderates the association between peer influence and purchase intentions of sustainable apparel.

H6: Price-consciousness moderates the association between past sustainable behaviour and purchase intentions of sustainable apparel.
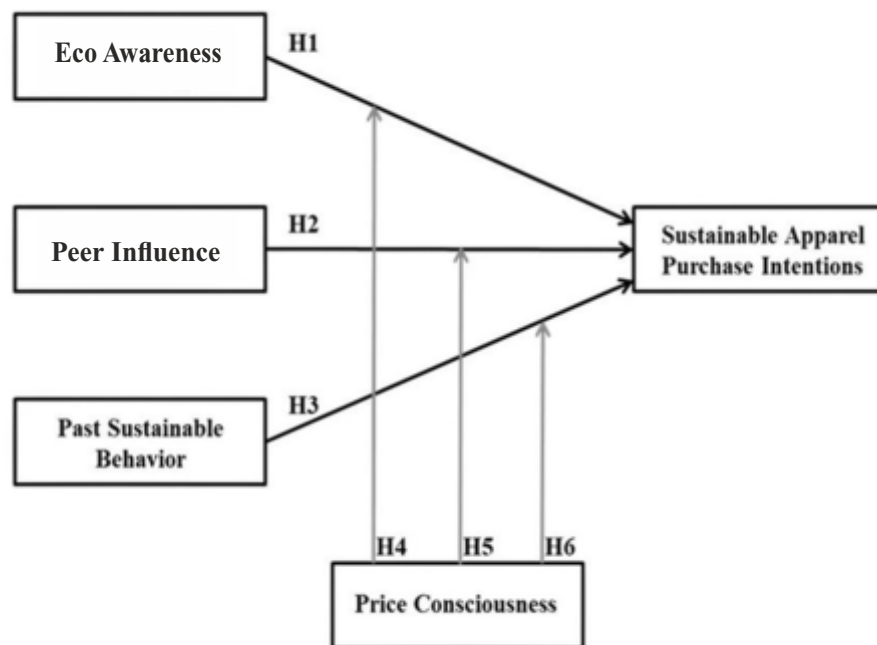

Figure 1. Conceptual Framework of Factors Influencing Sustainable Apparel Purchase Intentions

3. Research Approach

Quantitative research methodology was used to understand the role of Eco-awareness, Peer Influence, and past sustainable behaviour on sustainable apparel purchase intentions, with price consciousness as a moderating variable. The methodological framework is structured to ensure robustness in data collection, analysis, and interpretation.

3.1 Sample

A preliminary investigation involving 125 respondents was conducted, following which the finalised questionnaire was designed through pilot testing. Subsequently, the questionnaire was shared online with 610 individuals in India using purposive sampling techniques. Participants who embraced a sustainable lifestyle and purchased sustainable products were specifically chosen, considering their qualifications and financial statuses. Care was taken to ensure that the selected respondents were representative of the Indian population. Upon screening, 518 responses were deemed suitable and valid, resulting in a response validity rate of 86 per cent, which is deemed adequate for statistical analysis (Hair et al., 2010).

3.2 Sampling Bias

Sustainability-related research often faces social desirability bias, where there is a risk of respondents overstating their commitment to sustainable practices due to social norms. To mitigate this, the study ensured anonymous responses and used neutral question framing.

Another concern is sampling bias, as urban consumers were primarily targeted, which may limit generalizability to rural populations with different purchasing behaviours. To mitigate this, care was taken to include respondents from various income groups, education levels, and regions.

3.3 Measures

In section one, demographics such as age, gender, annual income, and education level were collected. The second section comprised 18 measurement instruments assessing respondents' Eco-awareness, Peer Influence, past experience, price consciousness, and intentions to purchase sustainable apparel. The questionnaire items related to consumers' Eco-awareness consisted of six questions. Subsequently, four items were dedicated to evaluating respondents' Peer Influence, while five items were allocated to measure the impact of past sustainable behaviours. Three questions/items were used to understand the intention to purchase sustainable apparel. The items used for measurement were adapted from various sources: Eco-awareness (Kim & Damhorst, 1998), Peer Influence (Lee et

al., 2009), past experience with sustainable products (Pickett-Baker & Ozaki, 2008), price consciousness, and intentions to purchase sustainable apparel (Nam et al., 2017). A Likert scale of 1 (strongly disagree) to 5 (strongly agree) was employed.

4. Data analysis

4.1 Models Used for Measurement

Scales used were pretested to ascertain the reliability of constructs. The quantitative investigation consisted of confirmatory and exploratory factor analysis for cleansing each scale. SEM was selected for its ability to simultaneously analyse multiple relationships between observed and latent variables. It allows for the modelling of complex interactions, including direct and indirect effects, while considering measurement errors, making it suitable for behavioural research. This approach provides a strong framework for assessing the relationships between Eco-awareness, Peer Influence, past sustainable behaviour, and purchase intentions. Additionally, SEM enables the inclusion of moderating variables, such as price consciousness, to determine its influence on purchase intentions. By using SEM, the study ensures a more precise estimation of hypothesised relationships and enhances the validity of the findings. The SPSS ver 25 and SPSS AMOS ver 22 were used for data analysis.

After the pretest, two items from Eco-awareness (i.e. 1. 'Natural fibres are good for skin' 2. 'Natural fibres are recyclable') and three items from past sustainable behaviour (i.e. 1. 'I do not buy products from eco-conscious companies, 2. 'I refuse plastic bags while buying vegetables and groceries, 3. 'I avoid buying products that contain harmful chemicals') were removed as they were below the desired

0.5 factor loading for internal consistency of scale development. All scales exhibited significant factor loadings (p = 0.000) of 0.6 and above. Cronbach's alpha ranged between 0.722 and 0.896 and thus was according to the recommended standard of 0.7 and above. The factor loadings and Cronbach's alpha value are given in Table 2. An acceptable fit was seen in the initial model. The discrepancy was checked using modification indices. Post modification, the final model showed a good fit: Normed ^{2}= 1.874; GFI = 0.934, AGFI =0.896, IFI = 0.965, TLI = 0.946, CFI = 0.965 and RMSEA = 0.053. These values of fit indices met the recommended levels (Byrne, 2001).

Table1. Respondents Demographics

Variables/Constructs	Frequencies	Percentages
Gender/Sex		
Male Female	185	35.7%
	333	64.3%
Age		
25 or below	78	15.1%
26-35	134	25.9%
36-45	123	23.7%
46-55	105	20.1%
56 or above	78	15.1%
Annual Income		
5 Lakhs or below	96	18.5%
5-10Lakhs	182	35.1%
10-20 Lakhs	154	29.7%
21 Lakhs or above	76	14.7%
Educational Qualification		
High School or below	30	5.8%
Graduate	284	54.8%
Post Graduate	186	35.9%
Doctoral or higher	18	3.5%
Marital Status		
Married Unmarried	355	68.5%
	163	31.5%
Whether or not you have purchased sustainable products previously		
Yes	405	78.2%
No	113	21.8%

Table 2. CFA loadings

Factor	Measured Item	Factor loading	AVE	Cronbach Alpha
Eco- awareness (EA)	Natural fibres are biodegradable in nature	0.759	0.584	0.818
	Natural fibres are treated without any toxins or unnatural processes	0.781		
	Synthetic fibres and fabrics contribute to water pollution	0.692		
	Dyeing and finishing of synthetic fibers use a lot of water	0.775		
	Synthetic fibres use high energy and crude oil	0.777		
	Synthetic dyes used in fabrics can lead to adverse health conditions	0.827		

Factor	Measured Item	Factor loading	AVE	Cronbach Alpha
Peer Influence (PI)	I came to know about environmental problems from my peers and family	0.652	0.678	0.896
	My friends, relatives and teachers often discuss about environmental issues	0.771		
	My social group recommends environmentally safe products	0.755		
	My social group regularly share their knowledge & experience regarding sustainable products	0.696		
Past sustainable behaviour (PSB)	I buy biodegradable soaps and detergents	0.776	0.592	0.722
	I avoid buying products that contain aerosol	0.779		
	I check the product tags before buying for checking if the product is environment friendly	0.725		
	I buy products that have reusable or refillable packaging	0.820		
	I shop for products that practice eco-friendly method of manufacturing	0.854		
Sustainable apparel purchase intentions (SAPI)	I have the intention of shopping for Sustainable Apparel	0.679	0.601	0.745
	I will make an effort to shop for sustainable apparel	0.771		
	I will try to browse/search for sustainable apparel	0.723		

4.2 Construct validity

The CFA loadings, AVE and CR values were deployed to establish convergent validity. The convergent validity was established as the factor loadings were > 0.6 for all scales. The CR values of the factors must be above 0.7 to confirm the convergent validity (Hair et al., 1998). The values of composite reliability for the constructs were between 0.748 and 0.901. AVE values for the factors were from 0.584 to 0.678. As these AVE values > 0.5, convergent validity was suggested. The squared root of AVE of the factors surpasses the correlation between that construct and other constructs, establishing the discriminant validity (Table 3)

4.3 Structural model

The structural model was used to test hypotheses. The moderating role of price consciousness was not ignored at this stage. The SRMR of the model was 0.052, indicating good model fitness. The structural model showed a good fit: Normed χ^2 = 1.974; GFI = 0.944, AGFI = 0.887, IFI = 0.954, TLI = 0.946, CFI = 0.914, and RMSEA = 0.056. The summary is given in Table 4. Eco-awareness had a positive significant influence (β = 0.569, t = 6.589, p = 0.000), and past sustainable behaviour had a negative significant influence (β = -0.258, t = -2.177, p = 0.007) on purchase intentions. The impact of peer influence on purchase intention was insignificant (β = 0.108, t = 1.256, p > 0.05).

Table 3. Discriminant validity of constructs

	Composite reliability (CR)	Eco-awareness (EA)	Peer Influence (PI)	Past sustainable behaviour (PSB)	Sustainable apparel purchase intention (SAPI)
EA	0.867	0.764			
PI	0.901	-0.100	0.823		
PSB	.782	0.638	-0.226	0.769	
SAPI	.748	0.675	-0.242	0.521	0.775

Table 4. Hypotheses test results

	Hypothesis	β value	t value	Decision
H1	EA – SAPI	0.569	6.589***	Supported
H2	PI-- SAPI	0.108	1.225	Not supported
H3	PSB – SAPI	0.258	2.177	Supported

***$p < 0.01$

4.4 Moderating effects of price consciousness

To evaluate the moderating effect of price consciousness, multigroup regression analysis was conducted. This approach allowed for the comparison of high and low price-conscious consumer segments, offering insights into how price consciousness strengthens or weakens the relationship between Eco-awareness, Peer Influence, past sustainable behaviour, and purchase intentions. The regression model provided statistical evidence supporting the moderation effect, ensuring consistency with earlier work that has examined similar interactions. By employing this method, the study effectively tested the impact of price consciousness on sustainable apparel purchase intentions while maintaining methodological rigour.

The complete sample was grouped (median-split) into two subgroup samples of low (n1 = 232) and high (n2 = 286) price consciousness to analyse the moderating effect. The model fit was verified for the unconstrained structural multigroup model: $\chi^2 = 438.642$, d$f = 254$, p = .000, Normed $\chi^2 = 1.651$, TLI = .938, IFI = .952, RMSEA = .046, CFI = .931. These values were within the standard range (Byrnne,

2001). A fully constrained model was designed to check the invariance in the high/low groups. Chi-square difference ($\Delta\chi^2$) was applied to find if the unconstrained/fully constrained model differed between low/high groups. The groups differed ($\Delta \chi^2 = 17.314$, Δd$f = 3$, p = .001). As the groups differ, all structural paths were constrained to find how the groups differ across the structural path. The analysis shows that the association between EA and SAPI differs significantly ($\Delta \chi^2 = 4.625$, Δdf = 1, p<0.05) for high ($\beta = 0.436$, t = 2.713, p< .01) and low ($\beta = 0.622$, t = 4.633, p< .01). The impact of PSB on SAPI also differs significantly ($\Delta \chi^2 = 3.981$, Δdf = 1, p<0.05) for high ($\beta = -0.211$, t = -2.697, p< .05) and for low ($\beta = 0.064$, t = 0.569, p> .05). It was observed that the high group exhibited a negative significance (p< .05) among PSB and SAPI. No significance was observed for the low group for the impact of PSB on SAPI (p> .05). Further, PI had a positive significance relationship with SAPI for the high group ($\beta = 0.243$, t = 2.128, p< .05), but it was insignificant for low group. There was no significant variation between the groups. ($\Delta\chi^2 = .981$, Δdf = 1, p> .05).

Table 5. Moderating Effect Model

Variable	Models	χ^2 (df)
Price-consciousness	Un-constrained	416.23 (255)
	Constrained	426.23 (252)
	Constrained EA---SAPI	428.23 (253)
	Constrained PSB---SAPI	436.23 (253)
	Constrained PI---SAPI	421.23 (253)

Table 6. Moderating Results

Hypothesis		High		Low		$\Delta \chi^2$	Decision
		Estimate	t value	Estimate	t value		
H4	EA---SAPI	0.436	2.713***	0.622	4.633***	4.617**	Yes
H5	PI---SAPI	0.243	2.128**	0.089	0.749	1.941	No
H6	PSB---SAPI	-0.211	-2.563**	0.064	0.546	3.756**	Yes
Variance explained (%) for SAPI		66.9		24.9			

*****$p<0.001$; ****$p<0.05$;*

5. Findings and Discussions

The purpose of this work was to analyse the factors influencing SAPI, with price consciousness as a moderator. To achieve this objective, an initial quantitative analysis was done using Confirmatory Factor Analysis (CFA). The CFA results with corresponding factors are shown in Tables 2–6. The factors impacting sustainable apparel purchase intention were examined. Subsequently, the investigation analysed whether price consciousness moderated these associations. The results highlighted that Eco-awareness (EA) positively and significantly affected SAPI (β = .569, p<.05), and past sustainable behaviour (PSB) also had a strong and significant effect on SAPI (β = .258, p<.05). Therefore, hypotheses H1 and H3 were validated. However, hypothesis H2 was not validated as Peer Influence (PI) did not influence SAPI, and the path was insignificant (β = .109, p>.05). EA and PSB were noted to be significant in forecasting sustainable apparel purchase intentions.

The positive association between EA and SAPI showed agreement with some previous studies (Wahid et al., 2012; Rezai, 2012; Liu, 2020; Wang, 2020). These findings showed that consumers who are environmentally knowledgeable and concerned about ecological problems are more likely to make sustainable purchase decisions. Consumers who are eco-conscious believe that buying sustainable products can help protect the environment (Schlegelmilch et al., 1996; Möser, 2015). The belief that their pro-environmental purchase decisions reduce environmental impact motivates them to buy sustainable products (Pickett-Baker & Ozaki, 2008; Möser, 2015). This is in agreement with the latest studies in emerging markets, where increasing environmental awareness is seen as a crucial factor in driving sustainable consumption (Kaiser et al., 2022; Ali et al., 2024).

However, PI had no influence on SAPI, which differs from previous research, indicating that Peer Influence is an

important predictor (Hoyer & MacInnis, 2004; Lee et al., 2009; Hafez et al., 2017). The result aligns with studies in India, which suggest that Peer Influence is not a critical predictor (Varshneya et al., 2017). In emerging markets, Peer Influence can have different impacts due to diverse cultural contexts and socioeconomic factors that influence consumer behaviour differently (Sharma & Verma, 2023; Patil & Sen, 2024). Consumer Peer Influence may differ depending on factors such as culture, country, age, gender, education, and income level, leading to variations in results across different studies.

The results for H3 support earlier research, which has proposed the importance of past sustainable behaviour in influencing purchase intentions for sustainable clothes (Pickett-Baker & Ozaki, 2008; Norum & Ha-Brookshire, 2011; Rahbar & Wahid, 2011). Past exposure, awareness, knowledge, and consciousness about sustainable products are key motivators for sustainable purchase intentions. Consumers' personal sustainable habits, such as recycling, using green fuels, and purchasing sustainable products, help them understand the benefits of sustainable apparel, which increases their inclination toacquire sustainable apparel (Kumar et al., 2021). These results align with current literature stressing the significance of habit and prior engagement with sustainable behaviours in driving purchase intentions in emerging markets (Gupta & Bansal, 2024).

The moderating influence of price consciousness was examined, and it was noted that price consciousness moderated the relationship between EA-SAPI and PSB-SAPI, validating H4 and H6. These findings match with earlier studies where price consciousness moderated the relationship between EA and SAPI (Qomariah & Prabawani, 2020). For low price consciousness, the relationship between EA and SAPI showed a stronger coefficient (β = .622) compared to high price consciousness (β = .423). Consumers who are highly price sensitive may have lower SAPI compared to those with low price sensitivity, as they perceive sustainable apparel as expensive. These findings are in agreement with the trends seen in developing countries, where price sensitivity significantly influences consumer buying behaviour towards sustainable goods (Jain & Verma, 2023). Higher Eco-awareness may not necessarily result in higher sustainable apparel purchase intention, as Indian consumers are particularly price-conscious, making price a major predictor of sustainable apparel purchase intentions.

Interestingly, PSB had a negative impact (β = -.211) on SAPI for high price-sensitive consumers; conversely, the relationship was insignificant for low price-sensitive consumers. Additionally, PI positively and significantly impacts SAPI for the high price-sensitive group, but the relationship was not significant in the low price-sensitive group.

5.1 Contribution and Theoretical Implications

The study explores the factors influencing Sustainable Apparel Purchase Intentions (SAPI), focusing on Eco-awareness, Peer Influence, and past sustainable behaviour. A key finding revealed that only Eco-awareness and past sustainable behaviour significantly impact intentions to purchase sustainable apparel. Given the significant market potential for sustainable apparel in India, this research also investigated the moderating role of price consciousness on Indian consumers' SAPI. A novel aspect of this study was the examination of price sensitivity as a moderator in the Indian context. The proposed model confirmed price consciousness as a moderator for the relationships between Eco-awareness and SAPI, as well as past sustainable behaviour and SAPI, while rejecting its moderating effect on Peer Influence and SAPI. The study helps provide a deeper understanding of these dynamics and address existing research gaps. The scales used to measure the moderating effect of price consciousness were originally developed and applied in Western countries by Meng (2011). This study advocates for their application and comprehensive analysis within the Indian context, thereby enriching the existing literature

The present study holds various theoretical implications. Primarily, it sheds light on the relationship between EA and SAPI. Currently, there is a growing emphasis among researchers and marketers onenvironmental issues. The results suggest that consumers with a higher level of EA express concerns regarding the ecological effect of their purchasing decisions. Consequently, their SAPI is elevated due to their perception that sustainable apparel is both environmentally safe and beneficial for their health. This finding matches earlier work (Cowan & Kinley, 2014; Hamzah & Tanwir, 2021), indicating a positive association between Eco-awareness, concern, and consumers' intentions to purchase sustainable apparel.

Secondly, several researchers have emphasised the role of Peer Influence as a crucial factor in determining sustainable product purchases (Wang, 2014; Ramayah, 2010; Tanford & Montgomery, 2015). However, the findings of this work challenge the conclusions drawn in previous research. It was noted that PI had little to no impact on the buying intentions of Indian consumers regarding sustainable

apparel. The buying decisions of Indian consumers are based on their values and beliefs rather than succumbing to external social pressures. This finding is notable as it presents a novel perspective that diverges from existing literature.

Third, the outcomes of the study are in agreement with prevailing research indicating that consumers' past engagement with sustainable products serves as an important predictor of their future intentions to purchase sustainable apparel (Pickett-Baker & Ozaki, 2008; Norum & Ha-Brookshire, 2011; Rahbar & Wahid, 2011). Consumers who have previously experienced sustainable products typically exhibit a heightened concern for environmental conservation, thereby leading to elevated SAPI. These individuals may have encountered benefits such as improved health outcomes and product longevity, which could drive their inclination towards picking sustainable apparel.

Fourth, price consciousness emerged as a moderator in the relationship between EA and SAPI. This finding matches earlier findings in the realm of sustainable products (Prakash et al., 2018; Rana & Paul, 2017; Wang, 2020). The attitudes of the high-price conscious demographic towards environmental issues, product quality, and their intentions to purchase sustainable products may be heavily shaped by product pricing, as they view price as a primary determinant in their purchasing decisions. In contrast, low-price conscious consumers may not base their perceptions and decisions on price considerations. Instead, they prioritise product quality and environmental concerns, thereby opting for sustainable apparel. Our findings highlight the significant role played by price in shaping consumers' Sustainable Apparel Purchase Intentions (SAPI).

The fifth hypothesis indicates that Peer Influence plays a noteworthy role in shaping the purchase intentions of sustainable apparel among consumers with high levels of price consciousness. Typically, consumers characterised by high price consciousness display hesitance towards purchasing sustainable products due to their perception of elevated costs. However, under the influence of social factors, they may be swayed to reconsider their stance and choose sustainable apparel. Conversely, individuals withlow price consciousness is less influenced by social groups, as the price is not a primary consideration for them.

The sixth hypothesis indicates that price consciousness serves as a moderator in the relationship between past sustainable behaviour and purchase intentions of sustainable apparel. Price-conscious consumers may not show higher intent to buy green apparel despite past sustainable behaviour, as they prioritise cost. On the other hand, for consumers with low price consciousness, the relationship between past sustainable behaviour and purchase intentions of sustainable apparel remains unaffected by price factors.

5.2 Managerial Implications

Retailers have the opportunity to enhance consumers' environmental awareness through various channels such as advertisements, news articles, short films, and documentaries. This increased understanding of the attributes of sustainable apparel can lead to improved buying intentions among consumers. Given the widespread sharing of information on social media platforms by consumers, retailers can effectively utilise these platforms to promote and influence potential buyers. Collaboration with government bodies, NGOs, and other social institutions involved in consumer education about environmental issues can further aid retailers in promoting sustainable apparel. Since consumers are primarily influenced by personal traits such as environmental concern, hygiene, family security, and sustainability rather than societal influences, marketers should tailor their promotional efforts accordingly. Leveraging past experiences of sustainable purchases as a predictor, marketers can implement innovative strategies such as promotional messages, advertisements, and social media campaigns featuring experienced users sharing their insights. These strategies have the potential to motivate potential consumers and foster a positive intention towards sustainable goods, thereby increasing their purchase intentions.

Consumers exhibiting pro-environmental attitudes and sustainable buying behaviour are prime targets for the promotion of sustainable apparel. Marketers can incentivise purchases by offering discounts, enabling consumers to gain firsthand experience with sustainable products and potentially leading to future purchase intentions. Recognising the differing behaviours of high-price conscious and low-price conscious consumers, marketers should emphasise the benefits of sustainable apparel products to justify their higher price for the former group. For the latter group, retailers should focus on maintaining product performance and reliability to ensure continued loyalty and repeat purchases, along with ongoing innovation in design and style.

From a policy perspective, governments can play a pivotal role by incentivising businesses to embrace sustainable practices via tax benefits, subsidies, and eco-labelling programs. Policymakers can also workto educate the public about the ecological and social impacts of fast fashion and encourage a move towards sustainable consumption

behaviour through awareness campaigns. Moreover, integrating sustainability into policy frameworks can assist in creating a supportive atmosphere for sustainable apparel industries.

Design is a crucial aspect that retailers cannot overlook when it comes to sustainable apparel. Even if apparel products are environmentally and socially responsible, without good design, they may struggle to attract buyers. Retailers must actively market their sustainable apparel to their target audience. Employing storytelling techniques combined with contemporary communication methods is essential for retailers. Digital storytelling, utilising multimedia tools like video, blogs, vlogs, podcasts, and fashion shows, can effectively bring stories to life. Messages directed at consumers should be communicated in a direct, clear, and consistent manner, avoiding any irrelevant expressions. Incorporating words such as "green," "eco-friendly," and "sustainable" into the messaging can be particularly appealing to consumers. Retailers should strive to involve their customers in sustainability conversations and make them feel like integral parts of their journey and solutions. Social media platforms can be utilised to encourage consumers to share their sustainability ideas, including how to use, wear, and recycle sustainable apparel. Employing creative imagery, branding, and storytelling strategies, retailers can effectively market their sustainable apparel to a wider audience. Furthermore, retailers should prioritise obtaining certifications to enhance the credibility of their sustainability claims, as consumers may be attracted to well-known sustainability credentials such as GBB, LEED, and ISO, among others.

To further leverage the conclusions, businesses should consider the influence of price sensitivity in shaping consumer purchase intentions. For price-conscious consumers, businesses could introduce tiered pricing or offer entry-level sustainable products at more affordable prices, gradually introducing consumers to sustainable apparel. For policymakers, fostering partnerships between the fashion industry and educational institutions to develop training programs that promote sustainable production practices could help scale the industry's transition toward sustainability.

5.3 Limitations and Future Directions

Several limitations were identified here. Firstly, the use of a purposive sampling method may introduce bias and limit the representativeness of the sample, as it relies on the subject knowledge of the authors. Additionally, the sample used in the study was skewed, with females comprising 64% of the participants, and it was confined to a specific geographical area. Moreover, important demographic variables such as annual income, educational qualification, and marital status were not taken into account. Furthermore, the study only utilised one out of the seven sub-scales developed by Lichtenstein et al. (1993), specifically focusing on price consciousness. A more comprehensive analysis could havebeen achieved by incorporating all seven sub-scales. The study also examined only three variables to elucidate SAPI. Finally, only the moderating effect of price consciousness was considered, while other potential moderators were overlooked.

For future investigations, it is recommended to expand the sample size by employing simple random sampling techniques, ensuring each member has an equal chance of participation. Equal representation of both genders is also advised. Additionally, future studies should explore various demographic profiles, as these factors may significantly influence intentions to buy sustainable products. Further research could explore the role of price consciousness on a broader range of sustainable products, such as cosmetics, vehicles, electronics, and books, beyond the realm of this study. While this work emphasised three factors, future research could delve into additional variables like sustainable brand recognition, peer influence, perceived economic risk, greenwashing, green advertising, and perceived aesthetic risk, which may also influence intentions to purchase sustainable apparel. In addition to the Peer Influence construct, future studies could investigate social esteem and social congruency constructs to provide a further inclusive understanding of consumer behaviour in sustainable purchasing. Finally, it is suggested that future studies explore the potential moderating effects of gender, age, qualification, and income to further elucidate the relationships between variables.

Despite these limitations, the findings offer valuable insights with practical implications for stakeholders. Marketers should tailor strategies based on price sensitivity and eco-consciousness. For price-sensitive consumers, offering tiered pricing or entry-level sustainable products could help introduce sustainable fashion without a significant financial barrier. For eco-conscious consumers, campaigns emphasising the environmental benefits of sustainable apparel can drive purchase intentions.

From a policy perspective, governments could introduce incentives like tax benefits or subsidies to reduce the price gap between sustainable and conventional products. Transparency can be encouraged through labelling programs or certifications to communicate sustainability credentials. National consumer education campaigns could also highlight the long-term benefits of sustainable purchasing, promoting widespread behaviour change.

Collaboration between governments and the fashion industry could also foster sustainability through joint initiatives like educational programs, industry workshops, and awareness campaigns. These partnerships can strengthen the relationship between brands, consumers, and policymakers while promoting sustainable supply chains and responsible consumption.

Finally, businesses should focus on consumer education, particularly regarding the ecological impact of fast fashion. Creative digital campaigns and partnerships with influencers can help communicate the long-term benefits of sustainable apparel and encourage sustainable consumer choices.

References

Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In *Action control* (pp. 11–39). Springer, Berlin, Heidelberg.

Alford, B. L., & Biswas, A. (2002). The effects of discount level, price consciousness and sale proneness on consumers' price perception and behavioural intention. *Journal of Business Research*, *55*(9), 775-783.

Ali, M., Rahman, M., & Banu, S. (2024). Eco-awareness and sustainable purchasing in emerging economies. *Sustainability Review, 12*(2), 212-230.

Ali, Q., Salman, A., Parveen, S., &Zaini, Z. (2020). Green Behaviour and Financial Performance: Impact on the Malaysian Fashion Industry. *SAGE Open*, *10*(3), 2158244020953179.

Aman, A.H.L, Harun A, and Hussein, Z. (2013). The Influence of Eco-awareness and Concern on Green Purchase Intention the Role of Attitude as a Mediating Variable.

British Journal of Arts and Social Sciences, 7 (2):145 – 167.

Amed, I. (2021). The state of fashion 2021: Business of Fashion and McKinsey.

Bamberg, S., &Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of Environmental Psychology*, *27*(1), 14-25.

Bielawska, K., & Gr bosz-Krawczyk, M. (2021). Consumers' Choice Behaviour Toward Green Clothing. *European Research Studies*, *24*(2), 238-256.

Byrne, B. M. (2001). Structural equation modelling with AMOS, EQS, and LISREL: Comparative approaches to testing for the factorial validity of a measuring instrument. *International Journal of Testing*, *1*(1), 55–86.

Chaudhary, R., & Bisai, S. (2018). Factors influencing green purchase behaviour of millennials in India. *Management of Environmental Quality: An International Journal*.

Cheah, I., &Phau, I. (2005). Toward a framework of consumers' willingness to purchase environmentally friendly products: A study of antecedents and moderator. *Broadening the boundaries. Univ. of Western Australia. pp*, 39–46.

Chekima, B., Wafa, S. A. W. S. K., Igau, O. A., Chekima, S., & Sondoh Jr, S. L. (2016). Examining green consumerism motivational drivers: does premium price and demographics matter to green purchasing? *Journal of Cleaner Production*, *112*, 3436-3450.

Chen, J. V., Yen, D. C., Kuo, W. R., & Capistrano, E. P. S. (2016). The antecedents of purchase and re-purchase intentions of online auction consumers. *Computers in Human Behaviour*, *54*, 186-196.Chen, L. (2013). A study of green purchase intention comparing with collectivistic (Chinese) and individualistic (American) consumers in Shanghai, China. *Information Management and Business Review*, *5*(7), 342–346.

Chen, Y. S., & Chang, C. H. (2013). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*.

Cowan, K., & Kinley, T. (2014). Green spirit: consumer empathies for green apparel. *International Journal of Consumer Studies*, *38*(5), 493–499.

Dangi, N., Gupta, S. K., &Narula, S. A. (2020). Consumer buying behaviour and purchase intention of organic food: a conceptual framework. *Management of Environmental Quality: An International Journal*.

de Medeiros, J. F., Ribeiro, J. L. D., &Cortimiglia, M. N. (2016). Influence of perceived value on purchasing decisions of green products in Brazil. *Journal of Cleaner Production*, *110*, 158-169.

De Mooij, M., & Hofstede, G. (2011). Cross-cultural consumer behaviour: A review of research findings. *Journal of International Consumer Marketing*, *23*(3-4), 181-192.

D'Souza, C., Taghian, M., Lamb, P., &Peretiatkos, R. (2006). Green products and corporate strategy: an empirical investigation. *Society and Business Review*, 1(2), 144.

Erdil, M. (2018). Understanding The Drivers of Generation Y Consumers' Green Purchase Intention: Price Sensitivity As A Moderating Variable. *Journal of Business Economics and Finance*, 7(1), 89–100.

Fraj, E., & Martinez, E. (2006). Environmental values and lifestyles as determining factors of ecological consumer behaviour: an empirical analysis. *Journal of Consumer Marketing*.

Ghali-Zinoubi, Z. (2020). Determinants of consumer purchase intention and behaviour toward green product: the moderating role of price sensitivity. *Archives of Business Research*, 8(1), 261-273.

Gupta, S., & Bansal, V. (2024). Habit formation and sustainable purchase behaviour in emerging economies. *Environmental Psychology Review, 20*(1), 45–59.

Hafez, R. A., Abdel-Wahhab, M. A., Sehab, A. F., & El-Din, A. Z. A. K. (2017). Green synthesis of silver nanoparticles using Morusnigra leave extract and evaluation their antifungal potency on phytopathogenic fungi. *Journal of Applied Pharmaceutical Science*, 7(02), 041–048.

Hair, J. F., Celsi, M., Ortinau, D. J., & Bush, R. P. (2010). *Essentials of marketing research* (Vol. 2). New York, NY: McGraw-Hill/Irwin.

Hamzah, M. I., & Tanwir, N. S. (2021). Do pro-environmental factors lead to the purchase intention of hybrid vehicles? The moderating effects of Eco-awareness. *Journal of Cleaner Production*, *279*, 123643.Hanson-Rasmussen, N. J., &Lauver, K. J. (2018). Environmental responsibility: millennial values and cultural dimensions. *Journal of Global Responsibility*.

Haryanto, B., & Budiman, S. (2014). The role of Eco-awareness in moderating the consumer behavioural processes toward the Green products (survey on the Green product-mind in Indonesian). *Society of Interdisciplinary Business Research*, 4(1).

Henning, O., &Karlsson, S. (2011). Environmental attitudes and how they affect purchase intentions of environmentally friendly automobiles: An empirical study on Chinese students at Jönköping University.

Henninger, C. E., Alevizou, P. J., & Oates, C. J. (2016). What is sustainable fashion? *Journal of Fashion Marketing and Management: An International Journal*.

Hsu, C. L., Chang, C. Y., &Yansritakul, C. (2017). Exploring purchase intention of green skincare products using the theory of planned behaviour: Testing the moderating effects of country of origin and price sensitivity. *Journal of Retailing and Consumer Services*, *34*, 145-152.

Hubacek, K., Guan, D., & Barua, A. (2007). Changing lifestyles and consumption patterns in developing countries: A scenario analysis for China and India. *Futures*, *39*(9), 1084-1096.

Indriani, I. A. D., Rahayu, M., &Hadiwidjojo, D. (2019). The influence of Eco-awareness on green purchase intention and the role of attitude as a mediating variable. *International Journal of Multicultural and Multireligious Understanding*, *6*(2), 627-635.

Jain, M., & Verma, K. (2023). The moderating effect of price sensitivity on sustainable apparel consumption in India. *International Journal of Consumer Studies, 29*(4), 416–429.

Jaiswal, D., & Kant, R. (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services*, *41*, 60–69.

Jansson, J., Marell, A., &Nordlund, A. (2010). Green consumer behaviour: determinants of curtailment and eco-innovation adoption. *Journal of Consumer Marketing*, 358, 370.

Joshi, Y., & Rahman, Z. (2017). Investigating the determinants of consumers' sustainable purchase behaviour. *Sustainable Production and Consumption*, *10*, 110–120.

Kaiser, J., Thompson, R., & Lee, S. (2022). Sustainable consumption behaviour in emerging markets: An analysis of environmental awareness and its impact. *Journal of Consumer Behaviour, 35*(4), 355–368.

Kim, H. S., &Damhorst, M. L. (1998). Environmental concern and apparel consumption. *Clothing and Textiles Research Journal*, 16(3), 126-133.Kumar, A., Prakash, G., & Kumar, G. (2021). Does environmentally responsible purchase intention matter for consumers? A predictive sustainable model developed through an empirical study. *Journal of Retailing and Consumer Services*, *58*, 102270.

Lanzini, P., &Thøgersen, J. (2014). Behavioural spillover in the environmental domain: an intervention study. *Journal of Environmental Psychology*, *40*, 381-390.

Lasuin, C. A., & Ng, Y. C. (2014). Factors influencing green purchase intention among university students. *Malaysian Journal of Business and Economics (MJBE)*.

Lee, A. H., Kang, H. Y., Hsu, C. F., & Hung, H. C. (2009). A green supplier selection model for high-tech industry. Expert systems with applications, 36(4), 7917-7927.

Lichtenstein, D. R., Ridgway, N. M., &Netemeyer, R. G. (1993). Price perceptions and consumer shopping behaviour: a field study. *Journal of Marketing Research*, *30*(2), 234–245.

Liu, P., Teng, M., & Han, C. (2020). How does Eco-awareness translate into pro-environmental behaviours?: The mediating role of environmental attitudes and behavioural intentions. *Science of the Total Environment,* 728, 138126.

Mei, O. J., Ling, K. C., & Piew, T. H. (2014). The antecedents of green purchase intention among Malaysian consumers. *Asian Social Science*, *8*(13), 248.

Mello, N. 10 Ethical & Sustainable Clothing Brands You've Never Heard of in 2021.

Meng, J. G. (2011). Understanding cultural influence on price perception: empirical insights from a SEM application. *Journal of Product & Brand Management*.

Mishal, A., Dubey, R., Gupta, O. K., & Luo, Z. (2018). Dynamics of environmental consciousness and green purchase behaviour: an empirical study. *International Journal of Climate Change Strategies and Management*, *9*(5), 682-706

Möser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behaviour. *Journal of Consumer Marketing*.

Nam, C., Dong, H., & Lee, Y. A. (2017). Factors influencing consumers' purchase intention of green sportswear. *Fashion and Textiles*, *4*(1), 1-17.

Norum, P. S., & Ha-Brookshire, J. E. (2011). Consumer trade-off analysis and market share estimation for selected socially responsible product attributes for cotton apparel. *Clothing and Textiles Research Journal*, 29(4), 348–362.

Panda, T. K., Kumar, A., Jakhar, S., Luthra, S., Garza-Reyes, J. A., Kazancoglu, I., &Nayak, S. S. (2020). Social and environmental sustainability model on consumers' altruism, green purchase intention, green brand loyalty and evangelism. *Journal of Cleaner Production*, *243*, 118575.Patil, A., & Sen, D. (2024). The role of Peer Influence in sustainable apparel purchase behaviour in India. *Asian Journal of Fashion and Marketing, 18*(3), 202-218.

Pickett-Baker, J., & Ozaki, R. (2008). Pro-environmental products: marketing influence on consumer purchase decision. *The Journal of Consumer Marketing*, 25(5), 281.

Prakash, G., Singh, P. K., & Yadav, R. (2018). Application of consumer-style inventory (CSI) to predict young Indian consumers' intention to purchase organic food products. *Food quality and preference*, *68*, 90-97.

Qomariah, A., &Prabawani, B. (2020, March). The Effects of Eco-awareness, Environmental Concern, and Green Brand Image on Green Purchase Intention with Perceived Product Price and Quality as the Moderating Variable. In *IOP Conference Series: Earth and Environmental Science* (Vol. 448, No. 1, p. 012115). IOP Publishing.

Rahbar, E., & Wahid, N. A. (2011). Investigation of green marketing tools' effect on consumers' purchase behaviour. *Business Strategy Series*, 12(2), 73-83.

Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, conservation and recycling*, *54*(12), 1419–1427.

Rana, J., & Paul, J. (2017). Consumer behaviour and purchase intention for organic food: A review and research agenda. *Journal of Retailing and Consumer Services*, *38*, 157-165.

Rathinamoorthy, R. (2019). Consumer's awareness on sustainable fashion. In *Sustainable fashion:*

Consumer awareness and education (pp. 1–36). Springer, Singapore

Rezai, G., Teng, P. K., Mohamed, Z., &Shamsudin, M. N. (2012). Consumers' awareness and consumption intention towards green foods. *African Journal of Business Management*, *6*(12), 4496- 4503.

Sandhya, G., & Mahapatra, S. K. (2018). Thematic analysis to assess Indian consumers' purchase intention for organic apparel. *The Qualitative Report*, 23(8), 1962- 1982.)

Sawang, S., Sun, Y., & Salim, S. A. (2014). It's not only what I think but what they think! The moderating effect of social norms. *Computers & Education*, *76*, 182-189.

Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing*.

Sharma, G., & Verma, M. (2023). Peer Influence in Sustainable Consumption: Cultural and Socio-economic Perspectives in Emerging Markets. *Journal of Emerging Market Studies, 8*(1), 88–104.

Shen, D., Richards, J., & Liu, F. (2012). Consumers' awareness of sustainable fashion. *Marketing Management Journal*, *23*(2), 134–147.Sommer, L. (2011). The theory of planned behaviour and the impact of past behaviour. *International Business & Economics Research Journal (IBER)*, 10(1).

Srean, N., Purbey, S., & Sadarangani, P. (2016). Impact of culture, behaviour and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 41, 177-189.

Stephens, S. H. (1985). *Attitudes toward socially responsible consumption: development and validation of a scale and investigation of relationships to clothing acquisition and discard behaviours* (Doctoral dissertation, Virginia Polytechnic Institute and State University).

Tanford, S., & Montgomery, R. (2015). The effects of Peer Influence and cognitive dissonance on travel purchase decisions. *Journal of Travel Research*, *54*(5), 596–610.

The Business Research Company. *Sustainable Fashion Market Analysis Shows The Market Progress In Attempt To Decrease Pollution In The Global Ethical Fashion Market* (2020). https:// www. globenewswire.com/ fr/news-release/

Tudu, P. N., & Mishra, V. (2021). To buy or not to buy green: the moderating role of price and availability of eco-friendly products on green purchase intention. *International Journal of Economics and Business Research*, *22*(2-3), 240-255.

Varshneya, G., Pandey, S. K., & Das, G. (2017). Impact of Peer Influence and green consumption values on purchase intention of organic clothing: a study on collectivist developing economy. *Global Business Review*, 18(2), 478–492.

Wahid, N. A., Rahbar, E., &Shyan, T. S. (2012). Factors influencing the green purchase behaviour of Penang environmental volunteers. *International Business Management*, *5*(1), 38-49.

Wang, H., Ma, B., & Bai, R. (2019). How does green product knowledge effectively promote green purchase intention? *Sustainability*, *11*(4), 1193.

Wang, J., Pham, T. L., & Dang, V. T. (2020). Environmental consciousness and organic food purchase intention: a moderated mediation model of perceived food quality and price sensitivity. *International Journal of Environmental Research and Public Health*, *17*(3), 850.

Wang, S. T. (2014). Consumer characteristics and Peer Influence factors on green purchasing intentions. *Marketing Intelligence & Planning*.

Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behaviour in a developing nation: Applying and extending the theory of planned behaviour. *Ecological Economics*, *134*, 114–122.

Yamoah, F. A., &Acquaye, A. (2019). Unravelling the attitude-behaviour gap paradox for sustainable food consumption: Insight from the UK apple market. *Journal of Cleaner Production*, *217*, 172–184.

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Macroeconomic Factors and Working Capital Management Strategies: Evidence from Nigeria

John Ikponwonsa Otalor, Ph.D
Department of Accounting,
University of Calabar, Nigeria
Email: john.otalor@gmail.com
orcid.org/0000-0002-1029-6947

Ibrahim Malam Fali
Department of Accounting,
University of Calabar, Nigeria

Salome Agiounim Ayanbeshishie
Department of Accounting,
University of Calabar, Nigeria

Abstract

This paper investigates the relationship between macroeconomic factors and working capital management strategies (WCMS). Based on 460 company-year observations collected from 46 manufacturing companies in Nigeria, the study used the system generalized method of moment (Sys-GMM) technique to estimate the specified model. Our study demonstrates that macroeconomic factors strongly influence the operating cycle, which serves as a proxy for working capital management strategy. While inflation rate (INFR) and gross domestic product growth rate (GDPGr) have a positive association with WCMS, exchange rate (EXCHR) and interest rate (INTR) have a negative impact on WCMS. Similarly, corporate characteristics like firm size (FRMSz), profitability (PRFT), leverage (LEVR), sales growth (SAGR) and liquidity (LIQR) are essential predictors of WCMS. Furthermore, FRMSz and SAGR are positively related to WCR, whereas PRFT, LIQR and LEVR are negatively related to WCR. Our results support a non-linear link between corporate characteristics and macroeconomic factors as well as WCR and its square. This study contributes to the literature in several ways. First, it illustrates how macroeconomic factors play a significant role in predicting companies' WCMS. Second, it emphasizes the importance of working capital Management (WCM) and confirms the primacy of the resource-based view of the firm. The dynamic nature of firms' OC suggests that the dependent variable is endogenous, which has consequences for the study's findings. To overcome this limitation, we used the Sys-GMM. Because working capital (WC) is a valuable resource, management must maintain optimal WC levels to reduce related risk and increase profitability.

Keywords: *Operating cycle, WCMS, Macroeconomic factors, Corporate characteristics*

1. Introduction

An effective working capital management strategy (WCMS) aims to shorten the operating cycle and lower the amount of capital invested in current assets (Anton & Nucu, 2021). Controlling account receivables and the collection process, as well as managing investment in inventories, can help achieve this (Dalci et al., 2019; Goncalves et al., 2018; Korent & Orsag, 2018; Lefebvre, 2023). Because of the fragility of businesses in the face of a challenging operating environment, this study of macroeconomic factors and WCMS is essential to Nigeria. For example, in the recent decade, businesses in Nigeria have faced epileptic power supply, challenges in obtaining funds, high raw material costs, and insufficient foreign exchange for raw material importation. This necessitates further research since a challenging business environment can exacerbate competition as businesses cannot reduce credit allowed and receivables collection period without losing sales, nor can they secure extended payment days (Ramiah et al., 2014; Rahman et al., 2010). Macroeconomic factors and corporate characteristics determine a firm's decision-making and action as well as its organizational structure and internal processes, including the WCMS (Kristanto, 2022; Mahmood, 2022; Sisay & Nongmaithem, 2019; Seth et al., 2020; Valipour et al., 2012). Macroeconomic factors are part of the general environmental variables that include social, political, and economic conditions, as well as legal and regulatory frameworks in an entity's business environment, as opposed to specific factors such as customers, suppliers, and competitors (Egbunike & Okerekeoti, 2018; Taher et al., 2010). While macroeconomic factors present threats and opportunities that vary with the size of the organization, the industry and the countries in which it operates, and the nature of competition (Pearce & Robinson, 2000), corporate characteristics and resources are key determinants of competitive advantage as espoused by the resource-based view of the firm (Bharadwaj et al., 1993; Hunt, 1999). Moreover, while corporate characteristics are unique to individual businesses and within the control of management, macroeconomic factors originate from the external environment and beyond any single company's operating situation. They are, therefore, not within the control of individual companies (Dioha et al., 2018; Pearce & Robinson, 2000). As part of the overall value creation strategy of the company, working capital (WC), as one of the valuable resources of the company, is an essential source of competitive advantage (Korent & Orsag, 2018; Dinku, 2013; Daft, 2010). However, competition can curtail the

ability to manage working capital efficiently, especially in industries where competition is stiff. Therefore, companies must ensure an optimal level of investment in WC. Optimal WC describes the level of investment in WC beyond which there will be a negative impact on business operations (Sensini & Vazquez, 2021; Tsuruta, 2018). This research focuses on Nigeria for the following reasons. First, a plethora of recent studies on working capital management in Nigeria investigated the nexus between WC and profitability (Otekunrin et al., 2021; Sani & Nwite, 2020; Oladipo et al., 2020; Olaoye et al., 2019; Ademola, 2014; Angahar & Alematu, 2014), but we do not know of any study in Nigeria that has empirically examined the association between WCMS and macroeconomic factors. Second, most prior studies (Arunkmar & Ramanan, 2013; Gill et al., 2012; Mansoori & Muhammad, 2012; Mathuva, 2010; Mekonnen, 2011; Naimulbari, 2012; Ponsian et al., 2014; Reheman et al., 2010; Ray, 2012; Ruichao, 2013; Saghir et al., 2011; Vural et al., 2012) focused on the operational WCMS viz: accounts payables, accounts receivables and inventory management. Given the above, we contribute to the working capital management literature by investigating the effect of macroeconomic factors such as inflation, exchange rate, interest rate and gross domestic product growth rate on WCMS as measured by the OC, while controlling for company-specific characteristics. Thus, our study differs from previous studies in this respect. The OC is measured by the number of days cash is tied down in WC. OC is dynamic, indicating that it may be endogenous. Therefore, this study adopted the Sys-GMM, which is better suited to handle the diversity among the units of analysis. Our result shows that macroeconomic factors can fuel intense competition and economic downturns that can compel companies to adopt a defensive working capital strategy to improve liquidity, enhance financial credibility and profitability and maintain competitiveness.

2. Literature Review and Hypothesis Development

This paper considers WC as a firm's critical resource and a key determinant of success in line with the resource-based theory. The resource-based view of the firm argues that for firms to gain a competitive advantage in a challenging business environment, they must possess resources that are valuable, rare, inimitable, durable and have no substitute and deploy them effectively and efficiently to exploit opportunities and mitigate threats (Porter, 1998; Barney, 1991). A resource means anything which could be thought of as a strength or weakness of a given firm (Wernerfelt, 1984). A firm's resources include all assets, capabilities,

organizational processes, attributes, information, knowledge and so on controlled by the firm, which enables the firm to conceive and implement strategies that improve efficiency and effectiveness (Daft, 2010). A firm's resources consist of tangible and intangible assets that are critical to its success. They include brand names, technical know-how, technology, skilled personnel, trade contacts, property, plant and equipment, efficient procedures, capital, geographical location, and access to raw materials and finance (Barney, 1991; Caves, 1980). This theory is important for this study because the OC determines the availability of cash, and cash is a key determinant of the success and survival of businesses.

2.1 Working Capital Management Strategy

The goal of WCMS is to achieve an optimal WC cycle, which measures operational efficiency and financial effectiveness. Operational efficiency is measured by the gross OC and net OC (Dalci et al., 2019). Working capital strategy contributes to the profitability of manufacturing companies (Raheman et al., 2010). Therefore, manufacturing companies must consider and adopt a strategy that offers them a competitive advantage and enhances profitability. Corporate characteristics such as size, leverage customer/supplier market and the business environment have implications for risk perception (Mathur et al., 2020). For example, failure to identify and respond appropriately to changes in the business environment can affect a company's WCMS (Eilifsen et al., 2001; Mitchell, 1995). Following Lyngstadaas (2020), this paper investigates WCMS from a financial perspective. The operating cycle and liquidity management constitute the financial perspective of WCMS.

2.2 Hypothesis Development

2.2.1 Macroeconomic Factors

The inflation rate, exchange rate, interest rate, consumer price index, rate of unemployment, gross domestic product, stock market index and corporate tax rate are examples of macroeconomic factors that affect business operations (Egbunike & Okerekeoti, 2018; Taher et al., 2010). Opportunities and threats within the macroeconomic environment of the business affect WCMS. This necessitates the following hypotheses:

2.2.1.1 Inflation Rate

The inflation rate is measured as changes in the average price level relative to a price index, which can be computed as the GDP deflator or a consumer price index (CPI) (Akers, 2014). An increasing CPI tends to reduce overall consumer spending and decrease GDP. During inflation, prices of inputs for production increase, and aggregate demand for goods and services rises beyond the productive capacity of the economy (Egunike & Okerekeoti, 2018). While studies such as Soukhakian and Khodakarami (2019) found a positive association between inflation and WCMS, Simon et al. (2019) found a negative relationship.

Hypothesis 1a

Inflation can dictate the working capital strategy adopted by companies. Therefore, we hypothesize that *Inflation is associated with WCMS.*

2.2.1.2 Exchange rate

Foreign exchange risk is crucial for risk management. Exchange rates have a significant impact on demand in both the domestic and export markets as they affect the prices paid for goods and services (Martin & Mauer, 2003; Raisovà & Durcovà, 2014). A strong domestic currency stimulates investment by enhancing demand. Conversely, a weak domestic currency dampens investment (Egunike & Okerekeoti, 2018). Hussain et al. (2021) posit that the exchange rate affects WCMS positively.

Hypothesis 1b

Given the importance of the exchange rate to manufacturing companies, we predict that *the exchange rate is associated with WCMS.*

2.2.1.3 Interest Rate

Interest rate is a major determinant of the flow of money and the purchasing power of money in any economy because it controls inflation in the economy (Ngugi, 2001). High interest rates curtail inflation because they attract more savings but impede growth. Conversely, low interest rates stimulate the economy by encouraging investment but fuel inflation (Egbunike & Okerekeoti, 2018). Studies have found that interest rates have a significant influence on a company's working capital strategy. While a low interest rate encourages aggressive WCMS, high interest favours a defensive WCMS (Hussain et al., 2021; Soukhakian & Khodakarami, 2019).

Hypothesis 1c

Given the established influence of interest rate, *this* hypothesis states that *Interest rate is associated with WCMS.*

2.2.1.4   Gross domestic product (GDP) growth

The GDP growth rate is an indicator of the performance of the economy. It is an important measure of the size of the economy and mirrors the overall health of the economy (Callen, 2020). From the expenditure approach of computing the GDP, higher per capita GDP implies higher consumption and spending by households, companies and government (Aluthge et al., 2021). The relationship between GDP growth and company performance is mixed. While Panda et al. (2021) reported a negative relationship between GDP growth and WCMS, Soukhakian and Khodakarami (2019) found no significant relationship. We predict that:

Hypothesis 1d

GDP is associated with WCMS.

2.2.2 Corporate Characteristics

Corporate characteristics such as size, leverage, profitability, liquidity and sales growth are linked with access to finance and markets (Kijkasiwat et al., 2022; Tsuruta, 2018). The literature acknowledges that corporate characteristics affect WCMS (Moussa, 2019; Sisay & Nongmaithen, 2019; Valipour et al., 2012; Ebben & Johnson, 2011). Based on the relationship between working capital management and corporate characteristics in the extant literature, we predict that corporate characteristics will affect WCMS in similar ways:

2.2.2.1   Firm size

Larger companies have greater access to finance and the market because they are believed to be creditworthy and more transparent due to greater disclosure (Tsuruta, 2018). However, smaller companies may have limited access to finance because of information asymmetry between borrowers and lenders (Klann et al., 2014; Eisenhardt, 1989). Extant studies have shown that the relationship between firm size and WC is mixed. While García-Teruel and Martinez-Solano (2007) and Anton and Nucu (2021) found a positive relationship, Moussa (2019), Valipour et al. (2012) and Ebben and Johnson (2011) found a negative association.

Hypothesis 2a

Large companies can offer higher trade credits and longer collection days to attract customers. Therefore, we predict that *firm size is associated with WCMS.*

2.2.2.2 Profitability

Profitability is a measure of the profit generated by the business, and without profitability, the business will cease to be a going concern. Profit is at the heart of business decisions and operations and a measure of corporate efficiency in the use of its assets to generate profit (Brealey & Myers, 2006). It is measured in percentage terms either as a percentage of sales, percentage of investments or percentage of total assets, also called return on total assets. Studies such as Delmar et al. (2013) and Lourenço and Branco (2013) have established a positive relationship between profitability and business survival. Working capital management strategy contributes to the profitability of companies (Dalci et al., 2019; Enqvist et al., 2014; Raheman et al., 2010), therefore, companies must consider and adopt a strategy that offers them a competitive advantage and enhances profitability. Many studies have found a negative relationship between working capital management and profitability (Ray, 2012; Vural et al., 2012; Saghir et al., 2011). Therefore, OC should be shortened as much as practicable without hurting the activities of the company. Some studies report a positive relationship between OC and profitability (Seth et al., 2020; Gill et al., 2012). These results imply that the relationship between the OC and profitability is non-linear (inverted U-shaped), implying the existence of optimal working capital (Akbar et al., 2021; Anton & Nucu, 2021; Chancharat & Kumpamool, 2022; Valipour et al, 2012).

Hypothesis 2b

The non-linear relationship between the OC and profitability suggests the existence of optimal working capital. Therefore, this hypothesis predicts that *profitability is associated with WCMS.*

2.2.2.3   Leverage

Leverage refers to the proportion of debt to equity in the capital structure of a company. It is the amount of debt used to finance capital expenditure to improve the company's performance (Aktas et al., 2015). Creditors and lenders as stakeholders have concerns about the ability of the company to pay for the supply of goods and services and repay a loan and interest obligations (Akbar et al., 2021). Longer OC means more investment in the current assets. A shorter OC is important for the company as it confers the ability to settle financial obligations on time, thereby enhancing the company's goodwill (Akbar et al., 2021). From the agency theory perspective, highly leveraged companies are likely to incur higher agency costs and, by extension, higher costs of capital, especially if they are unable to settle financial obligations on time (Jensen & Meckling, 1976). Thus, leverage hurts WCMS (Anton & Nucu, 2021; Aktas et al., 2015).

Hypothesis 2c

Highly leveraged companies pursue an aggressive working capital strategy; therefore, we hypothesize that *leverage is associated with WCMS.*

2.2.2.4 Sales Growth

The OC measures how fast a company converts its cash on hand into inventory and then converts inventory back to cash through sales. OC equals the length of time between the company's release of cash for payment for productive resources such as materials and labour and the time it takes to receive cash from the sale of products (Wajahat and Hammad ul Hassan, 2010). Sale occurs when a company converts its inventory into either cash or receivables. Sales growth refers to the increase in sales between two periods, where the sale in the current period exceeds the sale in a prior period. Thus, the sales growth rate is measured as the current year's sales minus the previous year's sales, divided by the previous year's sales (Omondi & Muturi, 2013; Rehana et al., 2012; Yilmaz & Nobanee, 2023). Studies such as Botoc and Anton (2017) and García-Teruel and Martinez-Solano (2007) have found a positive relationship between sales growth and WCMS.

Hypothesis 2d

In the face of competition and economic downturn, companies may be compelled to increase their operating cycle to boost sales. Consequently, this hypothesis predicts that *sales growth is associated with WCMS.*

2.2.2.5 Liquidity

Liquidity is one of the key decisions that a finance manager makes in an organization. Moreover, one of the goals of efficient WCMS is to improve liquidity to meet maturing obligations and enhance the risk-reward relationship (Habib & Kayani, 2022; Alvarez et al., 2021; Filbeck & Krueger, 2005). Liquidity refers to the amount of funds a company keeps handy to settle creditors and meet other unforeseen financial obligations as they mature (Douglas, 2014; Arnold, 2008). Companies are always faced with the dilemma of choosing between liquidity and profitability. Hence, finance managers must ensure they find a mid-way between profitability and liquidity (Eljelly, 2004). In this study, the current ratio (LIQR), computed as current assets/current liabilities, is used as a measure of liquidity. A short OC impacts liquidity positively, but a long OC impairs the ability to meet current financial obligations and may lead to financial distress (Akbar et al., 2021; Ponsian et al.,

2014). This implies that a company's liquidity and OC move in the same direction (Akgun & Karatas, 2020).

Hypothesis 2 e

A higher liquidity ratio may encourage companies to relax their credit policy to boost sales and maintain market position, especially when competition is stiff and during an economic downturn. Given the foregoing, this study's hypothesis states that companies' *liquidity is associated with WCMS.*

3. Methodology

The data for the study were collected from the financial statements of 49 manufacturing companies listed on the burse of the Nigerian Exchange (NGX) Limited for the period 2012 to 2021. Three companies whose financial statements were not up to the cut-off date were excluded from the sample. Our study's dependent variable, WCMS, was represented by the OC, which has two components: The Cash Conversion Cycle (CCC) and Working Capital Ratio (WCR) (Anton & Nucu, 2021; Dalci et al., 2019; Bo oc & Anton, 2017; Naimulbari, 2012). This study used the Working Capital Ratio (WCR) and its squares (WCR^2) as proxies for WCMS in the specified model. Evidence from prior studies shows that there may be reverse causality between corporate characteristics and WCMS, leading to the problem of endogeneity (Prempeh & Peprah-Amankona, 2020; Dalci et al., 2019). Reverse causality implies a bi-directional relationship between the dependent and independent variables. Thus, for our study, WCMS may affect macroeconomic factors and corporate characteristics and macroeconomic factors and corporate characteristics may also affect WCMS. It is also likely that there may be the problem of omitted variable bias or the possibility of unobserved individual effects of correlation between the individual variables in the model (Korent & Orsag, 2018), thus dictating the use of dynamic panel data/generalized method of moment (Sys-GMM). The Sys-GMM model is more appropriate because it considers the dynamic nature of the company's OC and potentially mitigates the endogeneity problem. In the dynamic panel regression model, the use of the lagged dependent variable as an independent variable helps control endogeneity problems and omitted variable bias.

The model is stated in the implicit form thus:

WCMS = f (Macroeconomic factors, Corporate characteristics)

WCMS = OC = f (INFR, EXCHR, INTR, GDPGr, FRMSz, PRFT, SAGR, LIQR, LEVR) --(1)

In econometric form, the estimation techniques lead to the following equations:

Model A

$OC\{WCR_{i,t}\} = \gamma_0 + \gamma_1 INFR_{i,t} + \gamma_2 EXCHR_{i,t} + \gamma_3 INTR_{i,t} + \gamma_4 GDPGr_{i,t} + \gamma_1 FRMSz_{i,t} + \gamma_2 PRFT_{i,t} + \gamma_3 SAGR_{i,t} + \gamma_4 LIQR_{i,t} + \gamma_5 LEVR_{i,t} + \varepsilon_{i,t}$ --(1)

$OC\{WCR^2_{i,t}\} = \gamma_0 + \gamma_1 INFR_{i,t} + \gamma_2 EXCHR_{i,t} + \gamma_3 INTR_{i,t} +$

$\gamma_4 GDPGr_{i,t} + \gamma_1 FRMSz_{i,t} + \gamma_2 PRFT_{i,t} + \gamma_3 SAGR_{i,t} + \gamma_4 LIQR_{i,t} +$

$\gamma_5 LEVR_{i,t} + \varepsilon_{i,t}$ --(2)

Where

OC = operating cycle,

$WCMS$ = Working capital management strategy,

$FRMSz_{i,t}$ = Firm size (measured as log of total assets),

$PRFT_{i,t}$ = Profit

$LEVR_{i,t}$ = Leverage,

$SAGR_{i,t}$ = Sales growth (measured as Δ in sales),

$LIQR_{i,t}$ = Liquidity ratio,

$INFR_{i,t}$ = Inflation rate.

$EXCHR_{i,t}$ = Exchange rate,

$INTR_{i,t}$ = Interest rate,

$GDPGr_{i,t}$ = Gross domestic product growth (measured as Δ in GDP)

$WCR_{i,t}$ = Working capital ratio,

$WCR^2_{i,t}$ = Working capital ratio squared

$\varepsilon_{i,t}$ = Stochastic error term.

4. Results and Discussion

4.1 Results

The descriptive statistics are displayed in Table 1. The mean of the working is far from both the maximum value and minimum values implying that there is wide variation in the WCMS of the companies under consideration. The skewness and kurtosis show that the data set is not normally distributed indicating that the ordinary least square is inappropriate for estimating the specified model.

Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
WCR	-77.87	1643.93	-35028	11.78	-21.24	451.98
INFR	12.31	3.09	8.06	16.95	0.12	1.70
EXCHR	270.49	91.85	157.26	435.60	0.17	1.85
INTR	12.66	1.12	11.00	14.00	-0.03	1.39
GDPGr	0.11	0.03	0.06	0.14	-0.67	1.96
FRMSZ	16.46	2.07	12.06	21.60	0.16	2.31
PRFT	0.05	0.17	-1.80	1.24	-1.66	36.48
SAGR	0.15	0.97	-1.00	13.54	9.83	118.80
LIQR	-0.37	6.16	-90.81	7.59	-11.94	160.55
LEV	61.44	26.35	12.42	222.97	1.91	10.19

Source: Own computation, 2023

4.1.1 Cross-section Dependence (CD) Test

The companies used in the study may exhibit similarities in their working capital management practices as they operate in the same environment. This implies that there may be interdependencies which can result in spatial autoregressive processes. The result of the cross-section dependence test in Table 2 is significant at the 5 per cent level, indicating the presence of cross-sectional dependence. This suggests that it is necessary to conduct unit roots test as there may be unit roots and cointegration issues in the data series.

4.1.2 Panel unit Root and Cointegration tests

The results reported in Table 3 indicate that there are unit roots at the first difference and level. Specifically, the ADF result of the panel unit root shows that the null hypothesis of unit roots should be rejected. These results imply that there is a long-run relationship among the variables as they are stationary at first deference and level. The Kao residual test in Table 4 reveals that the variables are cointegrated. This suggests that panel regression may not be efficient in estimating the specified model, giving impetus to the use of the Generalized Method of Moments.

Table 2. Residual Cross-Section Dependence Test

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	2282.68	1035	0.000
Pesaran scaled LM	27.42		0.000
Pesaran CD	18.54		0.000

Source: Own computation, 2023

Table 3. Panel unit roots test

Method	Statistic	Prob.	Order of co-integration
Levin, Lin & Chu t-stat	-2.48*	0.006	I (I)
Im, Pesaran and Shin W-stat	0.883	0.811	I (0)
ADF- Fisher Chi-Square	87.31	0.619	I (0)
Philip-Perron {PP-Fisher Chi-Square}	121.88**	0.020	I (0)

*Source: Own estimation, 2023. *, **, denote significant at the 1%, 5% level of significance respectively*

Table 4. Kao Residual Cointegration Test

Method	Statistic	Prob.
ADF	-4.21	0.000

Source: Own estimation, 2023

4.2 Panel GMM Analysis

The operating cycle represented by the WCR is dynamic, meaning that it may be endogenous. Therefore, to handle the diversity among the units of analysis, the sys-GMM/DPD was adopted. In estimating the sys-GMM/DPD equations, the study used the first lag of WCR as an instrument. From the results in the second panel of Table 5, the coefficient of the second-order AR test indicates that the estimates are not serially correlated, meaning that the use of one-period lagged dependent and independent variables as instruments was appropriate. The coefficient of the over-identifying restriction test {J-statistic which measures the appropriateness (or validity) of the instruments} possesses values higher than expected (i.e. greater than 0.1), J-stat = 32.30 with p = 0.599, implying that the GMM estimate results are valid. The coefficients of the variables in panels A, B and C show that the results of the estimates are robust. While Panel B shows the result of the relationship between macroeconomic factors and WCMS, Panel C displays the estimation result for corporate-specific characteristics and WCMS. Panel A depicts the result of the model estimation when the control variables were included to check for robustness. Therefore, the test of hypotheses was based on the model in this panel.

The result of the tests of hypotheses 1a to 1d and 2a to 2e show that the coefficient of INFR (76.37; t = 76.37; p = 0.000); EXCHR (-7.28; t = -24.73; p = 0.000); INTR ((-68.9; t = -10.15; p = 0.000); and GDPGr (2675.88; t = 11.84; p = 0.000) passed the significance test at less than 1 per cent. Similarly, the coefficient of the variables in hypotheses 2a to 2e are significant at less than 1 per cent: FRMSz (1183.37; t = 18.53; p = 0.000); PFRT (-8344.01; t = -64.59; p = 0.000); SAGR (65.60; t = 26.04; p = 0.000); LIQR (-20.57; t = -44.90; p = 0.000) and LEVR (-21.10; t = -24.20; p = 0.000). Therefore, we fail to reject the hypothesis of a significant relationship.

Table 5. Panel GMM Results

Variables	Panel A			Panel B			Panel C		
	ß	t	Prob › t	ß	t	Prob › t	ß	t	Prob › t
WCR (-1)	-0.57	-55.05	0.000						
INFR	76.37	18.53	0.000						
EXCHR	-7.28	-24.73	0.000						
INTR	-68.90	-10.15	0.000						
GDPGr	2675.88	11.84	0.000						
FRMSz	1183.33	18.53	0.000						
PRFT	-8344.01	-64.59	0.000						
SAGR	65.60	26.04	0.000						
LIQR	-20.57	-44.90	0.000						
LEVR	-21.10	-24.20	0.000						
J-statistic		32.30	0.599						
Arellano-Bond AR-1	-0.072		0.943						
Arellano-Bond AR-2	0.368		0.713						
WCR (-1)				0.433	10837.17	0.000			
INFR				-23.02	-353.51	0.000			
EXCHR				4.09	356.33	0.000			
INTR				-296.09	-357.83	0.000			
GDPGr				7937.71	359.90	0.000			
J-statistic					35.58	0.445			
Arellano-Bond AR-1				-1.36		0.174			
Arellano-Bond AR-2				1.45		0.147			
WCR (-1)							-0.545	-120.04	0.000
FRMSz							11.82	0.218	0.827
PRFT							-7493.59	-37.00	0.000
SAGR							89.18	44.08	0.000
LIQR							-10.16	-34.32	0.000
LEV							-23.91	-29.96	0.000
J-statistic								39.08	0.333
Arellano-Bond AR-1							-0.608		0.543
Arellano-Bond AR-2							1.40		0.161

Source: Own estimation, 2023

Table 6. Panel GMM Results for the squares of WCR

Variables	ß	t	Prob › t
WCR^2(-1)	-0.590	-115.36	0.000
INFR	-2107274	-44.86	0.000
EXCHR	2668661.1	44.81	0.000
INTR	919755.4	46.55	0.000
GDPGr	-86818867	-45.43	0.000
FRMSz	-49979934	-44.76	0.000
PRFT	2.81	45.17	0.000
SAGR	-2439041	-44.55	0.000
LIQR	664392.6	45.08	0.000
LEVR	688015.8	45.20	0.000
J-statistic		29.02	0.751
Arellano-Bond AR-1	-0.439		0.661
Arellano-Bond AR-2	0.710		0.478

Source: Own computation, 2023

4. 3 Discussion

In the test of the first hypothesis the coefficient of INFR is positive, indicating that the higher the rates of inflation, the higher the prices of inputs for production, thus, affirming the results of Egunike and Okerekeoti (2018), who aver that during inflation, companies require more resources to at least maintain the current level of operation because of increase in the prices of inputs. Similarly, the coefficient of GDPGr is positive, implying that higher consumption and spending by households, companies, and government encourages manufacturing companies to invest more in WC to meet demands. This is consistent with the findings of Panda et al. (2021). The coefficients of EXCHR and INTR are negative, which is in line with the study's apriori expectation. EXCHR has serious implications for demand and the prices of goods and services, especially when the domestic currency is weak. While our results confirm the findings of Raisovà and ur ovà (2014), it is not supported by the findings of Hussain et al. (2021), who reported a positive association between EXCHR and WC. INTR determines INFR in the economy. Consistent with the conclusions of Soukhakian and Khodakarami (2019) and Hussain et al. (2021), our result shows that as interest rates increase, companies reduce investment in WC and vice-versa. Although low interest encourages investment and stimulates the economy, the adverse effect on inflation suggests that Nigerian manufacturing companies adopt the defensive WCMS because of the high level of inflation and competition in the economy.

In the test of the second hypothesis, the control variables, FRMSz and SAGR, have a positive association with WCMS. The result indicates that larger companies have higher levels of WC because of larger market size and demand in consonance with the findings of Tsuruta (2018), García-Teruel and Martinez-Solano (2007) and Anton and Nucu (2021). Similarly, growth in sales implies more WC to meet growing demands; therefore, during periods of economic downturn, companies allow a longer OC to increase sales. Our result supports the findings of Bo oc and Anton (2017) and García-Teruel and Martinez-Solano (2007). However, PRFT, LIQR and LEVR have negative associations with WCMS, suggesting that the higher the profitability, liquidity and leverage of a company, the lower the WC. A short OC improves profitability because of less dependence on external sources of finance, thus reducing financing costs (Yazdanfar & hman, 2014). Companies with higher liquidity levels are more likely to reduce credit terms, unlike companies with lower liquidity, who may have to allow longer credit terms to enhance sales in the face of an economic downturn. This result is supported by Akbar et al. (2021) and Ponsian et al. (2014). Lastly, our result is also supported by the findings of Akbar et al. (2021) and Anton and Nucu (2021), which suggest that highly leveraged companies are more likely to reduce OC by reducing credit terms to be able to settle financial obligations on time.

In the second model, we tested for the effect of macroeconomic factors and company characteristics on the square of WCR. The result displayed in Table 6 shows that the signs of the variables were reversed, indicating that where a variable had a positive relationship with WCR, in this model, it has a negative relationship with WCR^2. Thus,

our result shows that the relationship between macroeconomic factors and WCMS is non-linear (inverted U-shape), implying an optimum level of investment in WC. Similarly, corporate characteristics have a non-linear relationship with WCMS. This result is supported by the findings of Tsuruta (2018) and Bo oc and Anton (2017).

5. Conclusion and Recommendations

5.1 Conclusion

The threats and opportunities presented by macroeconomic factors increase competition in the business environment, while corporate characteristics determine how companies respond to the threats and opportunities as they strive to beat the competition. This study investigated the association between macroeconomic factors and WCMS while controlling for company-specific characteristics. The panel GMM results indicate that the macroeconomic factors examined have a significant influence on working capital management strategies. Specifically, the study finds that the coefficient of the inflation rate and the GDP growth rate are significant and positive. Inflation erodes the purchasing power of businesses due to increases in the prices of inputs, prompting the need for more money to maintain the current level of operations. GDP growth stimulates spending and consumption; higher consumption increases demand for goods and services. To meet the increase in demand, companies would have to increase investment in WC. Our study finds that exchange and interest rates have a significant association with WCMS, and the result is negative. A high exchange rate implies higher prices of imported inputs and results in higher output prices. This contract growth necessitates a reduction in WC requirements. Our result shows that manufacturing companies in Nigeria adopt a defensive working capital policy because of the high interest rate in the economy, and the interest rate and inflation rate move in tandem. The non-linear relationship between macroeconomic factors and WCMS and the concave relationship between company characteristics and WCMS is indicative of the existence of an optimum level of WC.

5.2 Recommendations

The study recommends that given the difficult operating environment and the intense competition in the economy, manufacturing companies should strive for a level of working capital that will improve profitability and enhance competitiveness. The dependent variable might be endogenous, which can affect the study's result, however, the use of the Sys-GMM estimation technique mitigates the endogeneity problems. One practical extension of the study might be to categorize the manufacturing companies in the country into small and large entities and investigate if there are differences in their working capital management strategies.

References

Ademola, O. J. (2014). "Working capital management on profitability of selected quoted food and beverage manufacturing firms in Nigeria", *European Journal of Accounting Auditing and Finance Research,* Vol. 2 No. 3, pp. 10-21.

Akbar, M., Akbar, A. and Draz, M. U. (2021). "Global financial crisis, working capital management, and firm performance: Evidence from an Islamic market index", *SAGE Open* (April-June), pp.1-14.

Akgun, A. I. and Karatas, A. M. (2020). "Investigating the relationship between working capital management and business performance: Evidence from the 2008 financial crisis of EU-28", *International Journal of Managerial Finance*, Vol. 17 No. 4, pp. 545-567.

Aktas, N., Croci, E. and Petmezas, D. (2015). "Is working capital management value-enhancing? Evidence from firm performance and investments", *Journal of Corporate Finance,* Vol.30, pp. 98-113

Aluthge, C., Jibir, A. and Abdu, M. (2021). "Impact of government expenditure on economic growth in Nigeria, 1970-2019", *CBN Journal of Applied Statistics*, Vol. 12 No. 1, pp. 139–174.

Alvarez, T., Sensini, L. and Vazquez, M. (2021). "Working capital management and profitability: evidence from an emergent economy", *International Journal of Advances in Management and Economics*, Vol. 11 No. 1, pp. 32-39.

Angahar, P. A. and Alematu, A. (2014). "Impact of working capital on profitability of the Nigerian cement industry", *European Journal of Accounting Auditing and Finance Research,* Vol. 2 No. 7, pp. 17-30.

Anton, S. G. and Nucu, A. E. A. (2021). "The Impact of Working Capital Management on Firm Profitability: Empirical Evidence from the Polish Listed Firms", *Journal of Risk and Financial Management,* Vol.14 No. 9, pp. 1-14.

Arnaldi, A., Novak, B., Roscigno, R. & Zhang, W. (2021). "Working Capital Management and Profitability: Empirical Evidence", *International Journal of Business Management and Economic Research,* Vol. 12 No. 2, pp.1911-1917.

Arnold, G. (2008). "*Corporate financial management"* (4th edition). Pearson Education Limited.

Arunkunar, O. N. and Ramanan, T. R. (2013). "Working Capital Management and Profitability: A Sensitivity Analysis", *International Journal of Research and Development: A Management Review,* Vol.2*,* pp. 52-58.

Baños-Caballero, S., García-Teruel, P. J. and Martínez-Solano, P. (2014). "Working capital management, corporate performance, and financial constraints", *Journal of Business Research,* Vol. 67, pp. 332–338.

Barney, J. (1991). "Firm resource and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99–120.

Bharadwaj, S.G., Varadarajan, P.R. and Fahy, J. (1993). "Sustainable competitive advantage in service industries: a conceptual model and research propositions", *The Journal of Marketing*, Vol 57 No. 4, pp. 83-99

Boisjolya, R. P., Conine, Jr, T. E. and McDonald, M. B. (2020), "Working capital management: Financial and valuation impacts", *Journal of Business Research,* Vol. 108*,* pp. 1- 8.

Bo oc, C., and Anton, G. S. (2017). "Is profitability driven by working capital management? Evidence for high-growth firms from emerging Europe". *Journal of Business Economics and Management* Vol. 18, pp. 1135–55

Brealey, R. A. & Myers, S. C. (2006). "*Corporate Finance",* McGraw-Hill, New York, NY.

Callen, T. (2020). "Gross Domestic Product: An Economy's All", *Finance & Development*, IMF. https://www.imf.org/external/pubs/ft/fandd/basics/gdp.htm. Retrieved October 25 2022.

Caves, R. E. (1980), "Industrial organization, corporate policy and structure", *Journal of Economic Literature*, Vol. 58, pp. 64-92.

Chalmers, D. K., Sensini, L. and Shan, A. (2020). "Working Capital Management (WCM) and Performance of SMEs: Evidence from India", *International Journal of Business and Social Science,* Vol. 11 No. 7, pp. 57-63.

Chancharat, N. and Kumpamool, C. (2022). "Working capital management, board structure and Tobin's q ratio of Thai listed firms", *Managerial Finance*, Vol. 48 No. 4, pp. 541–556. https://doi.org/10.1108/MF-08-2021-0361

Chen, Y., Diaz, E., Sensini, L. and Vazquez, M. (2020). "Working Capital Management and Quality Management Systems: Evidence from an Emerging Economy", *International Journal of Business Management and Economic Research,* Vol. 11 No. 4, pp. 1861-1868.

Daft, R. L. (2010). "*Organizational theory and design"*, (10[th]ed.), South-Western, Cengage Learning, Mason.

Dalci, I., Ozyapici, H., Tanova, C. and Murad, B. (2019). "The Moderating Impact of Firm Size on the Relationship between Working Capital Management and Profitability", *Prague Economic Papers* Vol. 28, pp. 296–312

Delmar, F., Mckelvie, A. and Wennberg, K. J. (2013). "Untangling the relationship among growth, profitability and survival in new firms", *Technovation*, Vol. 33 No. 8-9, pp.276-291.

Dinku, T. (2013). "Impact of Working Capital Management on Profitability of Micro and Small Enterprises in Ethiopia: The Case of Bahir Dar City Administration", *International Journal of Accounting and Taxation,* Vol. 1 No. 1, pp.15–24.

Dioha, C., Mohammed, N.A. & Okpanachi, J. (2018). "Effect of firm characteristics on the profitability of listed consumer goods companies in Nigeria", *Journal of Accounting, Finance and Auditing Studies*, Vol. 4 No. 2, pp. 14–31.

Ebben, J. J. and Johnson, A. C. (2011). "Cash Conversion Cycle Management in Small Firms: Relationships with Liquidity, Invested Capital, and Firm Performance", *Journal of Small Business & Entrepreneurship,* Vol. 24 No. 3, pp. 381-396.

Egbunike, C. F. and Okerekeoti, C. U. (2018). "Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria", *Asian Journal of Accounting Research*, Vol. 3 No. 2, pp. 142-168.

Eilifsen, W., Knechel, R. and Wallage, P. (2001). "Application of the Business Risk Audit Model: A Field Study", *Accounting Horizons*, Vol. 15 No. 3, pp. 193–207.

Eisenhardt, K. M. (1989). "Agency theory: an assessment and review", *The Academy of Management Review*, Vol. 14 No.1, 57-74.

Eljelly, M. A. (2004). "Liquidity-Profitability Trade-off: An Empirical Investigation in An Emerging Market", *International Journal of Commerce & Management,* Vol. 14 No. 2, pp. 48-61.

Enqvist, J., Graham, M. and Nikkinen, J. (2014). "The impact of working capital management on firm profitability in different business cycles: Evidence from Finland", *Research in International Business and Finance,* Vol. 32, pp. 36–49.

Filbeck, G. and Krueger, T.M. (2005). "An analysis of working capital management results across industries", *American Journal of Business*, Vol. 20 No. 2, pp. 11-20.

García-Teruel, P. J. and Martínez-Solano, P. (2007). "Effects of working capital management on SME profitability", *International Journal of Managerial Finance,* Vol. 3 No. 2, pp. 164-177.

Gill, A., Biger, N. and Mathur, N. (2012). "The relationship between working capital management and profitability: Evidence from the United States", *Business and Economics Journal* Vol. 10, pp. 1-9.

Goncalves, T., Gaio, C. & Robles, F. (2018). "The impact of Working Capital Management on firm profitability in different economic cycles: Evidence from the United Kingdom", *Economics and Business Letters,* Vol. 7, pp. 70–75.

Habib, A. M. and Kayani, U. N. (2022). "Does the efficiency of working capital management affect a firm's financial distress? Evidence from UAE", *Corporate Governance*, Vol. 22 No. 7, pp. 1567-1586.

Hernandez, S., Migliaro, D., Suarez, P. and Arnaldi, A. (2021). "Working Capital Determinants and Profitability: Empirical Evidence from an Emergent Economy", *IAR Journal of Business Management,* Vol. 2 No. 2, pp. 40-46.

Hunt, S.D. (1999). "The strategic imperative and sustainable competitive advantage: public policy implications of resource-advantage theory", *Journal of the Academy of Marketing Science*, Vol. 27 No. 2, pp. 144–159.

Hussain, S., Nguyen, V. C., Nguyen, Q. M., Nguyen, H. T. and Nguyen, T. T. (2021). "Macroeconomic factors, working capital management, and firm performance—A static and dynamic panel analysis". *Humanities and Social Science Communications,* Vol. 8, 123. https://doi.org/10.1057/s41599-021-00778-x

Jensen, M. and Meckling, W. (1976). "Theory of the firm: managerial behavior, agency costs, and ownership structure", *Journal of Financial Economics*, Vol. 3, No. 4, pp.305–360

Kijkasiwat, P., Shahid, A.U., Hassan, M.K. and Hunjra, A.I. (2022). "Access to finance, social capital and the improvement of corporate performance: evidence from Southeast Asia", *Managerial Finance*, Vol. 48 No. 7, pp. 1047–1068. https://doi.org/10.1108/MF-10-2021-051

Klann, R. C., Gomes, E. C. O., Gruel, M. A., and Bezerra, F. A. (2014). Influence of moral hazard and accountability in decision making. *Accounting View and Review, 25*(1), 99-118

Korent, D. and Orsag, S. (2018). "The impact of working capital management on profitability of Croatian software companies", *Zagreb International Review of Economics & Business,* Vol. 21 No. 1, pp. 47-65.

Kristanto, R. H. (2022). "The impact of macroeconomic on working capital management. Empirical study in Indonesian firms before pandemic 19", *Journal of Indonesian Applied Economics,* Vol. 10 No. 2, pp. 131-152.

Kroes, J. R. and Manikas, A. S. (2014). "Cash flow management and manufacturing firm financial performance: A longitudinal perspective", *International Journal of Production Economics,* Vol. 148 No. C, pp. 37-50.

Lefebvre, V. (2023), "Working capital management of IPO firms", *Managerial Finance*, Vol. 49 No. 5, pp. 808-828. https://doi.org/10.1108/MF-04-2022-0193

Lourenço, I.C. and Branco, M.C. (2013). "Determinants of corporate sustainability performance in emerging markets: the Brazilian case", *Journal of Cleaner Production*, Vol. 57, pp.134–141.

Lyngstadaas, H. (2020). "Packages or systems? Working capital management and financial performance among listed U.S. manufacturing firms", *Journal of Management Control,* Vol. 31 No. 4*,* pp. 403-450

Mahmood, F., Ahmed, Z., Hussain, N. and Zaied, Y. B. (2022). "Macroeconomic factors and financing strategies in working capital: Evidence from China", *International Journal of Finance & Economics*. https://doi.org/10.1002/ijfe.2666

Mannetta, E.W. & Zhang, W. (2014). "Working capital management and performance in emerging economies", International Conference on Accounting and Management Research, ICAMR

Mansoori, E. & Muhammad, D. J. (2012). "The Effect of Working Capital Management on Firm's Profitability: Evidence from Singapore", *Interdisciplinary Journal of Contemporary Research in Business,* Vol. 4 No. 5, pp. 472 – 486

Mathur, N., Tiwari, S.C., Sita Ramaiah, T. & Mathur, H. (2021). "Capital structure, competitive intensity and firm performance: an analysis of Indian pharmaceutical companies", *Managerial Finance*, Vol. 47 No. 9, pp. 1357-1382. https://doi.org/10.1108/MF-01-2020-0009

Mathuva, D. M. (2010). "The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms", *Research Journal of Business Management,* Vol. 4 No. 1, pp. 1-11.

Mekonnen, M. (2011). "*The impact of working capital management on firms' profitability",* [Unpublished Master Thesis, Addis Ababa University, Ethiopia].

Mitchell, V. (1995). "Organizational Risk Perception and Reduction: A Literature Review", *British Journal of Management*, Vol. 6, pp. 115-13

Mnang'at, S.A., Namusonge, G. and Oteki, E.B. (2016). "The effects of interest rate on the financial performance of micro-enterprises: a case study of Makutano Township in West Pokot County", *International Journal of Novel Research in Marketing Management and Economics*, Vol. 3 No. 3, pp. 22-29.

Morina, F., Hysa, E., Ergun, U., Panait, M. and Voica, M. C. (2020). "The effect of exchange rate volatility on economic growth: Case of the CEE countries", *Journal of Risk and Financial Market*, Vol. 13 No. 8, 177

Morshed, A. (2020), "Role of working capital management in profitability considering the connection between accounting and finance", *Asian Journal of Accounting Research*, Vol. 5 No. 2, pp. 257-267.

Moussa, A. A. (2019). "Determinants of working capital behaviour: evidence from Egypt", *International Journal of Managerial Finance,* Vol. 15 No. 1, pp. 39-61.

Muhammad, H., Rehman, A. U. & Waqas, M. (2016). "The relationship between working capital management and profitability: a case study of the tobacco industry of Pakistan". *The Journal of Asian Finance, Economics and Business,* Vol. 3 No. 2, 13–20.

Naimulbari MD, K. (2012). "The Impact of Working Capital Management on Profitability of Pharmaceuticals Sector in Bangladesh", [Unpublished undergraduate, research work: independent university, Bangladesh].

Ngugi, R.W. (2001). "An empirical analysis of interest rate spread in Kenya", *African Economic Research Consortium, Research* Paper No. 106.

Oladipo, O. N., Adegboyo, O. S. and Olugbamiye, D. O. (2020). "Effect of working capital management on profitability of manufacturing firms in Nigeria", *Journal of Accounting and Management,* Vol. 10 No. 3, pp. 154-164.

Olaoye, F. O., Adekanbi, J. A. and Oluwadare, O. E. (2019). "Working capital management and firms' profitability: Evidence from quoted firms on the Nigerian Stock Exchange", *Intelligent Information Management*, Vol. 11 No. 3, pp. 43-60.

Omondi, M.M. and Muturi, W. (2013). "Factors affecting the financial performance of listed companies at the Nairobi securities exchange in Kenya", *Research Journal of Finance and Accounting*, Vol. 4 No. 15, pp. 99-104.

Otekunrin, A. O., Nwanji, T. I., Fagboro, G. D., Olowookere, J. K. and Adenike, O. (2021). "Does working capital management impact an enterprise's profitability? Evidence from selected Nigerian firms", *Problems and Perspectives in Management,* Vol. 19 No.1, pp. 477- 486.

Panda, A. K., Nanda, S., and Panda, P. (2021), "Working Capital Management, Macroeconomic Impacts, and Firm Profitability: Evidence from Indian SMEs", *Business Perspectives and Research*, Vol. 9 No. 1, pp. 144–158.

Pearce II, J. A. & Robinson Jr., R. B. (2000). *Strategic management: formulation, implementation, and control* (7th ed.), Irwin McGraw-Hill

Ponsian, N., Christian, K., Tago, G. & Mkiibi, H. (2014). "The Effect of Working Capital Management on Profitability". *International Journal of Economics, Finance and Management Sciences,* Vol.2 No. 6, pp. 347–355.

Porter, M. E. (1998). "Competitive Strategy: Techniques for Analyzing Industries and Competitors", The Free Press, New York.

Prempeh, K. B. and Peprah-Amankona, G. (2020). "Does working capital management affect profitability of Ghanaian manufacturing firms?", *Zagreb International Review of Economics & Business,* Vol. 23, No. 1, pp. 1-18.

Raheman, A., Afza, T., Qayyum, A. and Bodla, M. A. (2010). "Working capital management and corporate performance of manufacturing sector in Pakistan", *International Research Journal of Finance and Economics,* Vol. 47 No. 1, pp. 156-169.

Raisovà, M. and ur ovà, J. (2014). "Economic growth-supply and demand perspective", *Procedia Economics and Finance,* Vol. 15, pp. 184 – 191

Ramiah, V., Zhao, Y. & Moosa, I. (2014). "Working capital management during the global financial crisis: The Australian experience", *Qualitative Research in Financial Markets* Vol. 6 No. 3, pp. 332–351.

Ray, S. (2012). "Evaluating the Impact of Working Capital Management Components on Corporate Profitability: Evidence from Indian Manufacturing Firms", *International Journal of Economic Practices and Theories,* Vol. 2, No. 3, pp. 2247–7225.

Rehana, K., Tahira, B., Muhammad, A. and Masood, H. (2012). "Inter-relationship between profitability, growth and size: a case of non-financial companies from Pakistan", *Pakistan Journal of Commerce and Social Sciences*, Vol. 6 No. 2, pp. 405-419.

Ruichao, L. (2013). "Impact of Working Capital Management on Profitability: The Case of Canadian Firms", [Unpublished Master Thesis, Saint Mary's University: Canada].

Saghir, A., Hashmi, F. M. & Hussain, M. N (2011). "Working Capital Management and Profitability: Evidence from Pakistan Firms. *Interdisciplinary Journal of Contemporary Research in Business,* Vol. 3 No. 8, pp. 1092 – 1105.

Sani, A. I. & Nwite, S. (2020). "Impact of working capital management on profitability of firms manufacturing businesses: Evidence from Nigeria", *International Journal of Finance and Accounting,* Vol. 9 No. 4, pp. 91–97.

Sensini, L. (2020). "Working capital management and performance: evidence from Italian SMEs", *International Journal of Business Management and Economic Research,* Vol.11 No. 2, pp. 1749-1755.

Sensini, L., and Vazquez, M. (2021). "Effects of Working Capital Management on SME Profitability: Evidence from an emergent economy", *International Journal of Business and Management,* Vol. 16 No. 4, pp. 85-95.

Seth, H., Chadha, S., Ruparel, N., Arora, P.K. & Sharma, S.K. (2020). "Assessing working capital management efficiency of Indian manufacturing exporters", *Managerial Finance*, Vol. 46 No. 8, pp. 1061–1079. https://doi.org/10.1108/MF-02-2019-0076

Sharma, A., & Kumar, S. (2011). "Effect of working capital management on firm profitability: Empirical evidence from India", *Global Business Review,* Vol. 12 No. 1, pp. 159–173.

Sisay, Y. H. and Nongmaithem, R. S. (2019). Effect of firm characteristics on working capital management of manufacturing firms in Amhara Ethiopia. Parikalpana - *KIIT Journal of Management,* Vol. 15, pp. 9-28.

Soukhakian, I. and Khodakarami, M. (2019). "Working capital management, firm performance and macroeconomic factors: Evidence from Iran", *Cogent Business & Management*, Vol. 6 No.1, 1684227, https://doi.org/10.1080/ 23311975.2019.1684227

Taher, M.A., Uddin, M.S. & Shamsuddoha, M. (2010). "Determinants of key favourable environment for entrepreneurship development: an empirical study of some selected companies in Bangladesh", *Journal of Public Administration and Policy Research*, Vol. 2 No. 4, pp. 54-57

Tsuruta, D. (2018). "Do working capital strategies matter? Evidence from Small Business Data in Japan", *Asia-Pacific Journal of Financial Studies,* Vol. 47, pp. 824–857.

Valipour, H., Moradi, J. and Farsi, F. D. (2012). "The impact of company characteristics on working capital management", *Journal of Applied Finance & Banking*, Vol. 2 No.1, pp. 105-125

Vural, G., Sökmen, A. G. and Çetenak, E. H (2012). "Effects of working capital management on firm's performance: Evidence from Turkey", *International Journal of Economics and Financial Issues,* Vol. 2 No. 4, pp. 488-495.

Wajahat, A. and Hammad ul Hassan, S. (2010), "Relationship between the profitability and working capital policy of Swedish Companies". Unpublished Master's thesis. Umeå University. http://umu.diva-portal.org.

Wernerfelt, B. (1984). "A Resource-Based View of the Firm". *Strategic Management Journal*, Vol. 5, No. 2, pp. 171-180.

Yilmaz, I. and Nobanee, H. (2023). "Determinants of cash conversion cycle in MENA countries", *Managerial Finance*, Vol. 49 No. 7, pp. 1148–1168. https://doi.org/10.1108/MF-03-2022-0101

Yazdanfar, D. and hman, P. (2014). "The impact of cash conversion cycle on firm profitability: An empirical study based on Swedish data", *International Journal of Managerial Finance*, Vol. 10 No. 4, pp. 442-452.

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Exploring the Influence of Ethical Leadership on Spirituality at the Workplace and Subjective Happiness for Sustainable Governance- Evidence from India

Dr. Roopali Batra

Assistant Professor

Department of Management and Hospitality

IKGPTU Main Campus, Kapurthala, Punjab

Amandeep Kaur

Research Scholar (Management)

IKGPTU Main Campus, Kapurthala, Punjab

Abstract

Sustainable governance systems are unattainable without an effective leadership structure supported by positive employee attitudes. Previous researchers have established the linkages between ethical leadership and a few organisational behavior variables, namely organisational commitment, employee voice behaviour, work outcomes, engaging work, etc. Nevertheless, there is a dearth of studies on the nuanced connection between ethical leadership, workplace spirituality, and the subjective happiness of employees. Our research examines the impact of ethical leadership on spirituality in the workplace and the subjective happiness of employees in the education sector in an emerging economy like India for promoting sustainable governance practices.

Standardised scales have been used to measure the constructs of ethical leadership, spirituality at the workplace, and subjective happiness. Four hundred fifty-seven teachers have been selected from senior secondary schools in Punjab using multistage sampling. Co-occurrence and co-citation analysis was conducted using VOS viewer to determine the research gap. Confirmatory Factor Analysis and Structural Equation Modelling has been employed to test the hypothesis and relationships in the proposed model.

Ethical standards have a significant positive relationship with all four variables of spirituality at the workplace scale. Nevertheless, ethical practice has a positive relation with all except mystical experience. Ethical standards 'were also found to play a significant role in creating happiness in the work environment. The research has sound implications for educational leaders in emerging economies to reassess their current leadership models for promoting a spiritual, happy organisational culture and develop sound ethical standards so that teachers experience ecstasy in the workplace. Sustainable governance in any educational institution is achievable with ethical leaders and motivated, happy teachers working together to achieve sustainable goals.

To the best of the researcher's knowledge, past literature could not confirm the linkages between Ethical Leadership, Spirituality at the workplace, employees, and subjective happiness, especially in emerging economies. Further, the education sector has received little attention in previous investigations of ethical leadership and its relation with workplace spirituality and teachers' happiness.

Keywords: *Ethical Leadership, Spirituality at the Workplace, Engaging work, mystical experience, sense of community, spiritual connection, Subjective Happiness, Sustainable Governance, Education sector, India*

1. Introduction

Growing concern over sustainability and ESG (Environmental, Social, and Governance) has made it imperative for business organisations to adopt sustainable business governance for long-term growth and financial viability. However, promoting Sustainable Governance is challenging as it requires collective efforts of top leadership, employees, and other stakeholders in creating an organisational culture and climate conducive to achieving sustainability (Dey et al., 2022)

A sound and effective governance system for higher education institutions is advocated to strategically align its mission and operations with its sustainability goals (Abubakar et al., 2023). A transparent and effective leadership structure (Abubakar et al., 2023) and a positive teachers' attitude (Christoforatou, E., 2021) are believed to be essential to promoting sustainable governance systems in education institutions.Several efforts have been made in the literature pertaining to ethics throughout the years to explore and comprehend ethical decision-making and ethical conduct. The idea of ethical leadership has recently gained immense importance in research primarily due to two factors. Firstly, a number of prominent business scandals have shown "ethical violations" by company executives (Toor & Ofori, 2009). A qualitative study conducted by Plinio, Young, and Lavery (2010) observed that one of the gravest problems witnessed by organisations nowadays is poor ethical behaviour and lack of ethical leadership. These occurrences have prompted scholars and practitioners to pay more attention to the ethical environment and culture of organisations and the causes and consequences of ethical leadership (Brown & Trevino, 2006). Secondly, previous research has shown that ethical leadership is associated with important follower outcomes such as higher satisfaction and commitment, readiness to address concerns to superintendents, higher work devotion, enhanced Organisational Citizenship Behaviour, and increased efficiency (Brown et al., 2005; Mayer et al., 2009; Walumbwa et al., 2011).

There are many different approaches to describe ethical leadership. According to Kanungo's (2001) research, moral leaders engage in behaviours that benefit others while refraining from damaging behaviour. The cornerstone of ethical leadership, as per Brown, Trevino, and Harrison's (2005) opinions, is the combination of honesty, moral principles, and treating employees fairly. Khuntia and Suar (2004) claim that moral conceptions are infused into ethical leaders' thoughts, attitudes, and behaviours.

Another recent field strongly relevant to the wellbeing of individuals, establishments, and societies at large is "spirituality at work" (Sheep, 2006; Moor & Casper, 2006). Jurkiewicz and Giacalone (2004) defined spirituality in the workplace as preserving employees' mystical experiences through their jobs. Claude and Zamor (2003) defined it as the exploration of significant work and life convictions via self-reflection and workplace interactions, which include interpersonal connections, moral realisations, and concern for the world.

A review of past literature also shows that over the last few decades, ample research has been conducted on the subject matter of the subjective happiness construct. Researchers have a particular interest in the cognitive and emotional aspects that contribute to the explanation of various degrees of subjective happiness. As a result, several associations of subjective wellbeing have been investigated in an effort to comprehend their reasons and upkeep (Diener et al., 2003). Although demographic and socioeconomic factors have historically received much attention (Argyle, 1999), the recent evidence on workplace spirituality and happiness shows a shift in focus to figuring out how they relate to personality traits (Diener & Lucas, 1999) as well as to various motivational and cognitive procedures (Lyubomirsky, 2001).

As we know, culture comes like rain. It continuously develops from top to bottom in an organisation. The right leadership role is very prominent in creating an ethical culture in any organisation. Numerous studies have explored the organisational outcomes and influences of ethical leadership. Ethical leadership is believed to influence job satisfaction and organisational commitment (Lim, 2012), trust and engaging work (Engelbrecht, 2014), firm performance (Wang et al., 2017), employee performance (Bello, 2012), employee productivity (Nauman, 2018), Employee engagement (Ashfaq, 2021). According to previous research studies, ethical leaders have a major role in promoting employee commitment to the organisation and ensuring their job satisfaction (Çelik et al., 2015; Okan & Akyüz, 2015). Similarly, some studies have advocated that employees are happier, more productive, and more spiritual in the workplace when their leader shows strong morals, a clear vision, and commitment to the clients (Yang, 2014).

The proposed model in the present research studies the relationship between ethical leadership, Spirituality at the workplace, and the subjective happiness of teachers based on the theory of Leader-Member Exchange and Social Identity Theory; according to Resick et al. (2011), ethical

Leadership has different meanings and values for employees across America, Europe, and Asian countries. Our research intends to examine the relationship between ethical Leadership, Spirituality at the workplace, and subjective happiness in the education sector in an emerging Asian economy like India.

2. Theoretical Background, Literature Review, and Hypotheses Building

2.1 Defining Ethical Leadership Brown et al. (2005) defined ethical leadership as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making.". They not only define ethical requirements and provide incentives to those who act ethically but also penalise those who violate the principles (Brown et al., 2005). Trevino et al. (2003) stated that an ethical leader promotes ethical behaviour, thereby affecting the ethical actions of his subordinates. According to Brown and Trevino's research from 2006, ethical people are sincere, kind, caring, dependable, and high-minded individuals who make logical judgments. Additionally, moral leaders follow what they preach and provide an excellent example for their followers (Brown & Trevino, 2006). Yukl (2006) describes an ethical leader as someone who advocates honesty and reflects their values and beliefs in their actions. Also, ethical leadership is defined as an abstruse paradigm with numerous elements. Cumbo (2009) emphasises that a leader is considered ethical when inner virtues direct the leader's decision-making process. Lawton and Paez (2015) examined the three dimensions of ethical leaders' Virtues, Purpose, and Practices. The study advocated that Ethical Leaders possess the virtues of

integrity and authenticity. To practice ethical leadership, institutions must nurture leader-follower relationships, and leaders should make decisions by exercising judgment and not just applying principles. Organisational factors rather than ethical factors determine the purpose and effectiveness of leaders.

According to Kaptein (2019), an ethical leader can also be termed as a moral entrepreneur who builds novel ethical standards and does not just follow the current ethical norms as a moral person and moral manager, as advocated by Brown et al. (2005). Walumnwa et al. (2011) confirmed that ethical leadership has a significant positive relationship with employee performance, as per the evaluation of their current supervisors and LMX; self-efficacy and organisational identification fully mediate this relationship. The variables of psychological safety and ethical culture are taken as mediating variables in many research. Similarly, ethical leadership itself has been taken as a moderating variable in numerous research studies, as evident from Figure 1, based on co-occurrence and co-citation analysis conducted using VOSviewer on the Web of Science text file.

Research has indicated a strong influence of ethical leadership on employee misconduct and bullying in organisations, thus favouring a healthy work environment (Mayer et al., 2010; Stouten et al., 2010). Ethical leadership predicts various organisational results, including worker offence (Mayer, Kuenzi, & Greenbaum, 2010), deviance in the workplace (Mayer, Kuenzi, Greenbaum, Bardes, & Salvador, 2009), unethical conduct goals (O'Keefe, Messervey, & Squires, 2017) and Intentions for Turnover (Demirtas & Akdogan, 2015; Elci, Sener, Aksoy, & Alpkan, 2012).
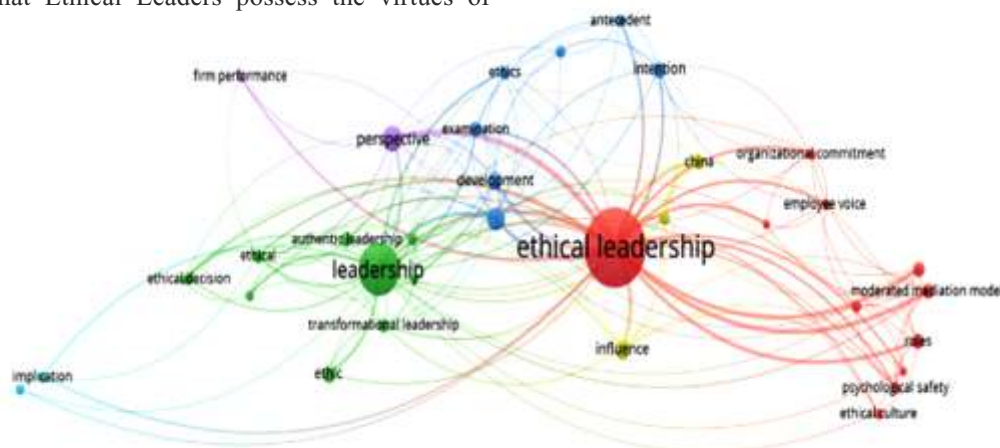

Figure 1. Co-occurrence and Co-citation analysis was conducted using VOSviewer on the Web of Science text file

A perusal of past literature reveals that most of the authors studied ethical leadership with various organisational outcomes like organisational commitment (Kim & Vandenberghe, 2021; Quin et al., 2020; Sabir, 2020); employee voice behaviour, psychological safety (Sagnak., 2017; Hu et al., 2018), ethical culture or organisational culture (Schaubroeck et al., 2012; Toytok & Kapusuzoglu, 2016; Mitonga-Monga et al., 2016; Superman et al., 2021), work outcomes (Qin et al., 2014), work behaviour (Newman et al., 2015); engaging work (Ashfaq, 2021), emotional exhaustion (Chughai et al., 2015; Rivers et al., 2018); affective wellbeing (Ahmad et al., 2018); psychological wellbeing (Teimouri et al., 2018); employee attitudes (Qing et al.,2020); subjective wellbeing, job performance (Kim, Moon & Shin, 2018); job satisfaction (Ahmad & Umran, 2019; Parveen, 2021; Quin et al., 2020). Additionally, few scholars have thought about ethical leadership with dedication and wellbeing in the education sector (Chughai et al., 2015; Ahmad et al., 2018; Ahmad et al., 2020; Walt, 2019; Sabir, 2020; Parveen, 2021).

2.2 LMX Theory and Social Identity Theory

The Leader Member Exchange Theory describes superior subordinate relationships based on workplace social interactions (Graen, Haga, Dansereau,1975; Graen & Scandura, 1987).

Social Identity Theory of Leadership pictures leadership as a group process and defines the social identity of an individual as a recognition of who they are, the basis of which is their group membership (Hogg, 2001)

Many studies have used the LMX theory to study the impact of ethical leadership on organisational outcomes (Walumbwa, 2011; Babi , 2014; Dadhich & Bhal, 2008; Yang et al., 2016). Similarly, quite a few researchers have incorporated the Social Identity theory to investigate the relationship of ethical leadership with other variables/outcomes in the organisation (Wu, 2021; Wang et al., 2021; Gerpott et al., 2019; Arshad, 2022).

2.3 Life circumstances theory of happiness

The "Life circumstances theory of happiness" proposed by Martin Seligman, a philosopher of positive psychology, suggests that the life circumstances of a person contribute to their holistic happiness and wellbeing, presented through the "PERMA" model wherein positive emotions, relationships, and accomplishment are main aspects of one's well being.

Life circumstance theories advocate that one's subjective wellbeing is a consequence of the life circumstances and favorable or unfavorable events of a person's life. Individuals born into favorable circumstances like greater financial security and a safe and stable family life, who experience good things more often than bad things, will have higher subjective wellbeing than less advantageous individuals who have unfavorable life circumstances. Furthermore, life circumstance theories confirm that the total subjective wellbeing and life satisfaction of an individual is the outcome of the degree of satisfaction with multiple life domains (work, family, relationships, etc.) based on the occurrence of positive and negative events, experiences, and emotions in these domains. This theory by Seligman recognises that along with personal factors and voluntary actions, external life circumstances also play a crucial role in happiness. Consequently, the level of satisfaction in the domain of the workplace and positive and negative experiences in the external workplace influence one's subjective happiness. Thus, ethical leadership at the workplace may be proposed as one of the factors influencing the subjective happiness of employees,

2.4 Defining Subjective Happiness

Wellbeing and happiness have gained attention after the development of positive psychology. Diener et al. (1999) defined "happiness as a combination of three components: infrequent instances of negative affect, frequent instances of positive affect, and a high level of satisfaction with life." According to him, most people want to be happy and seek happiness in various ways.

According to Lyubomirsky et al. (2005), the main traits of happy people are confidence, self-efficacy, an optimistic attitude, a positive understanding of others, sociability, strong immunity and physical health, and coping with life's stressors effectively. Further, happy people are more likely to be successful and accomplished across multiple life domains. Happiness is defined mainly as "how much one likes the life that one lives or the degree to which one evaluates one's life as a whole life as a whole positively" (Veenhoven, 2008). It has been defined as "the combination of feeling good and functioning well; the experience of positive emotions such as happiness and contentment as well as the development of one's potential, having a sense of purpose, having some control over one's life, and experiencing positive relationships" (Huppert, 2009).

Happiness is an abstract, complex, and multidimensional notion with varied opinions among people (Oishi et al., 2013; Trinh & Khanh, 2019). Culture has been acknowledged as an influencer of our perceptions towards happiness (Joshanloo, 2014). Defining a multicultural, diverse nation like India is even more difficult. Nonetheless, extensive research has found that a universally acceptable standardised definition of happiness does not exist. Various studies in Indian research have examined the enablers of happiness (e.g., social and familial ties (Chadda and 2013), politico-economic environment (Diener, 2012), goal achievement and leading a meaningful life (Sharma & Patra, 2014), Spirituality (Chang et al., 2018)) or determinants of happiness (like yoga and spiritual practices (Singh et al., 2014), physical activity (Pengpid & Peltzer, 2019), meditation (Benada & Chowdhry, 2017), positive and optimistic thinking (Wani & Dar, 2017), leisure activities (Suar et al., 2020).

2.5 Defining Spirituality in the Workplace

Spirituality is observed as a multidimensional, multifaceted, multi-level construct and phenomenon that is difficult to comprehend and describe (Ratnakar & Nair, 2012; Da Silva & Pereira, 2017). Spirituality is a feeling of association between humans and the universe, purpose in life integration, development, truth, and mindfulness (Harrington et al., 2004).

Earlier Organisations were reluctant to discuss the concept of Spirituality because of its religious implications. However, contemporary organisations are increasingly becoming more aware of different dimensions of workplace spirituality. According to Mathew (1994), "Spirituality at the workplace initiates from understanding that humans have an inner and outer life and that nurturing the inner life may lead to an outer life that is more profound and productive." M. Kinjerski & Skrypnek (2004) also describe Spirituality at work as "a distinct state that is characterised by physical, affective, cognitive, interpersonal, spiritual and mystical dimensions. Spiritual wellbeing and Spirituality-based programs at the workplace result in numerous benefits like enhanced profits, productivity performance, job satisfaction, and also many positive psychological outcomes at work (Chirico, 2017; Sharma, 2018; Chirico et al., 2020; Pouragha et al., 2022). In an era of globalisation with a turbulent business environment, endorsing Spirituality could make employees more productive, resilient, empathetic, and innovative (Rashidin et al., 2019).

Workplace Spirituality (WPS) has been explained at three levels: individual, group, and organisation (Kolodinsky et al., 2008; Benefiel et al., 2014). At the individual level, WPS signifies the assessment of an individual's inner life and meaningful or purposeful work. WPS at the group level indicates a sense of community (Milliman, 2003). Ultimately, at the organisational level, it may be defined as a spiritual culture or climate that is apparent in the values, mission, and vision of the organisation (Giacalone & Jurkiewicz, 2003; Kolodinsky et al., 2008; Benefiel et al., 2014).

2.6 Ethical Leadership and its Influence on Spirituality in the Workplace

Studies have endeavoured to characterise Spirituality and Spirituality in different manners. Mitrowaysnton (1999) defined it as the basic inclination of being associated with one's finished self, others, and the whole cosmos. The investigation of Spirituality in the work environment analyses the part of a person's spiritual measurement in the working environment. Ground-breaking research on the topic defined Spirituality in the workplace as the 'presence of an inner life which is promoted by successful work and connection.' (Ashmos & Duchon, 2000). This definition sees Spirituality as an inclination that begins from within an individual and is the inherent perspective on Spirituality (Krishnakumar & Neck, 2002). According to Kolodinsk et al. (2008), spirituality at the individual level can be induced by the utilisation of a person's profound viewpoint and thoughts in his/her work environment and recognition rising out of these ideas regardless of whether the association upholds spirituality. Examination testing into the connection between spirituality and individual results brings spirituality into account at the individual level. This research looks into a variety of traits, capabilities, and individual attitudes that are important for relationships throughout the long term. For instance, studies demonstrate that higher degrees of spirituality might foster more inventiveness (Daniel, 2010; Marques et al., 2005).

A review of literature on this subject matter touches on a variety of issues studying the impact of spirituality at the workplace on various organisational outcomes like the pragmatic effects of spirituality on trust and job satisfaction (Hassan et al., 2016; Altaf & Awan, 2011), employee attitude and engagement (Iqbal et al., 2021), employee performance (Mousa, 2020), increased motivation (Jurkiewicz & Giacalone, 2004); higher employee

retention, pro-social behaviours and organisational learning (Fry, 2003); organisation culture and productivity (Mehta & Joshi, 2000), trust and commitment (Rego & Cunha, 2008); on self-esteem (Crawford et al., 2009); the quality of life and employee wellbeingwellbeing (Karakas, 2010); organisation commitment (Pathak et al., 2017; Jesudhan, 2021). Workplace spirituality positively impacts employee performance, fostering a more productive work environment. (Arneliza et al., 2023, Lutfi, 2023). An ethical organisational climate mediates the relationship between workplace spirituality and employee behavior, reducing deviant actions and promoting a positive work atmosphere (Kaur et al., 2023).

Nonetheless, the literature review on factors affecting or determinants of Spirituality at the workplace is limited, with few studies on the same. Teachers' demographic factors, such as gender, age, academic qualifications, employment, and teaching experience, are believed to significantly affect workplace spirituality (Aslam et al., 2022). Also, factors like community culture, family environment, and social context greatly influence workplace culture, which in turn affects spiritual capital and employee satisfaction (Gholami & Garavand, 2022). A supportive organisational culture, characterised by community and trust that recognises and nurtures employees' inner lives, is evidenced to enhance workplace spirituality, leading to improved employee performance (Baudewin, 2022; Ahmad et al., 2024). Similarly, workplace empowerment, facilitated by an organisational learning culture, is found to significantly boost workplace spirituality, with knowledge sharing acting as a mediator. (Nurcahyo, 2024).

Though the literature review reveals that multiple factors affect the degree of Spirituality at the workplace, including demographics, organisational culture, and workplace empowerment, very few research have explored the relationship between leadership style or effectiveness and Spirituality at the workplace. Some studies have discussed the impact of spiritual leadership on workplace spirituality and found a positive, favourable relationship between the two (Afsar et al., 2016; Astakoni (2022). Researchers have highlighted the significant role of Spiritual Leadership in enhancing employees' perception of meaningful work, with intrinsic motivation acting as a mediator in this relationship (Udahemuka et al., 2024). Leadership efficiency and psychological wellbeing are also positively associated with workplace Spirituality (Riasudeen et al., 2020). Also, leadership styles, such as spiritual and servant leadership, are linked to increased workplace spirituality (Erol & Sava , 2023).

However, a survey of existing literature reveals that meagre studies have been conducted specifically on the relationship between ethical Leadership and Spirituality in the workplace. A few researchers, like Aftab et al. (2023), studied 268 employees in the IT industry and confirmed that ethical leadership enhances the spirit of Spirituality and raises job satisfaction. Adnan et al. (2020) observed that leaders are strong motivators, and they augment the sense of workplace spirituality in employees by exhibiting ethical leadership conduct, thus boosting employee engagement in the workplace. Riasudeen and Singh (2021) also, in their study of 630 IT employees from South India, found a significant positive association between the effectiveness of leadership and psychological wellbeing and workplace spirituality, which further impacts specific outcomes of work like intent to quit, organisation-based self-esteem (OBSE) and job involvement. Srivastava and Madan (2023) probed 348 frontline hotel employees in North India and observed a positive association between ethical leadership and organisational citizenship behavior mediated by workplace spirituality.

Nonetheless, little attention has been given to this subject matter in India, with only a handful of studies on the same. Hence, exploring the relationship between ethical Leadership and Spirituality in the workplace will be useful in the Indian Context. Furthermore, the education industry, in particular, has been ignored in such studies of ethics and Spirituality.

Through the above proposition, the following hypotheses are framed.

Hypothesis 1: Ethical Leadership is positively associated with Spirituality at the workplace.

The sub-hypothesis based on the above hypothesis is as follows.

H1a: Ethical standards positively influence engaging work among teachers.

H1b: Ethical standards positively influence a sense of community among teachers.

H1c: Ethical standards positively influence spiritual connection among teachers.

H1d: Ethical standards positively influence mystical experience among teachers.

H1e: Ethical practice positively influences engaging work among teachers.

H1f: Ethical practice positively influences a sense of community among teachers.

H1g: Ethical practice positively influences spiritual connection among teachers.

H1h: Ethical practice positively influences mystical experiences among teachers.

2.7 Ethical Leadership and its Influence on Subjective Happiness

The examination of psychologically healthy conduct or subjective wellbeing is gaining popularity (Bartels, Cacioppo, van Beijsterveldt, & Boomsma, 2013). Subjective wellbeing is defined as the pleasure of life, delight, or pleasant consequences (Diener, 2000), whereas psychopathology is defined as the internalised and outward manifestations of emotional illness symptoms (Sold & Shaffer, 2008). Due to its link to life fulfillment and psychological prosperity (Segrin & Taylor, 2007), desire for learning (Gabriele, 2008), and positive familial relationships (Lambert et al., 2014), subjective happiness is one of the essential segments of subjective wellbeing or healthy mental functioning. Analysts say confidence and a job well done (Lyubomirsky et al., 2005), academic work motivation (Gabriele, 2008), and relevance to daily life are all linked to subjective pleasure (Vela, Castro et al., 2014). Vela, Castro, et al. (2014) explored the links between importance in everyday life, happiness, and Spirituality with Latina/o undergraduates. They observed a link between subjective satisfaction and a lifetime sense of presence.

In a study by Yang (2014) in China, ethical leadership was found to have a negative direct effect on employee wellbeing, holding significant implications of the value of ethical Leadership in Chinese culture and a few latest studies by Teimouri et al. (2018) also confirmed a significant positive relationship between ethical leadership and employee psychological wellbeing. Kaffashpoor and Sadeghian (2020) also indicated that Ethical Leadership significantly affects the wellbeing of nurses through job satisfaction both directly and indirectly. Later, Srivastava et al. (2022) advocated the positive association between Spiritual Leadership and happiness at work routing through mediators such as Affective commitment and pro-social behaviour. Cheng et al. (2022) studied 194 employees in the Chinese construction industry and observed a positive relationship between ethical leadership and employee wellbeing. Also, a fantastic indirect effect of ethical leadership on employee wellbeing was observed *through* perceived organisational support as a mediating variable. Ejaz et al. (2022) study indicated a positive relationship between ethical leadership and employee wellbeing. Sarannee (2022) established that Ethical leaders create happiness in organisations. Research indicates that ethical leadership significantly boosts employee happiness, which in turn enhances organisational performance, and this relationship is further strengthened by corporate social responsibility initiatives (Fendui et al., 2024). Additionally, ethical leadership fosters employee voice, which mediates its positive effects on workplace happiness (Yousif et al., 2019; Deniz, 2024). Ethical leaders help employees manage their emotions effectively and enhance employee happiness and wellbeing through various mechanisms, including emotional management, employee voice, and perceived organisational support (Saleem et al., 2024).

Nevertheless, a review of past literature shows that the impact of ethical Leadership on Spirituality at work and subjective happiness has not been explored much in Indian settings. Few researchers like Kumar and Dhiman (2021) studied transformational leadership and its impact on workplace wellbeing and happiness. Zaffar and Gani (2022) studied 400 public sector employees in northern India. They confirmed the positive role of senior management/leadership with an empathetic attitude, workplace transparency, non-discriminatory practices, and fair procedures in enhancing employee happiness. Srivastava et al. (2022) advocated the positive association between spiritual leadership and happiness in the Indian service sector, leading to the creation of sustainable and happy workplaces. Verma, Arora, and Ahmed (2023) highlighted various factors endorsed by leaders, like academic freedom, work-life balance, and workload management, that make a positive contribution toward enhancing academicians' happiness. Later, Kaur (2023) studied academicians from private universities in Punjab and confirmed that managerial leadership has a significant impact on their happiness and turnover plans.

However, there is still meagre prior research available on ethical leadership's impact on subjective happiness in the Indian Context. The further education sector has received little attention in previous investigations of ethics, Spirituality, and happiness, and it would be interesting to learn more about the connections between ethical leadership and subjective happiness in a culturally different society like India. It will have valuable implications for the Indian education sector.
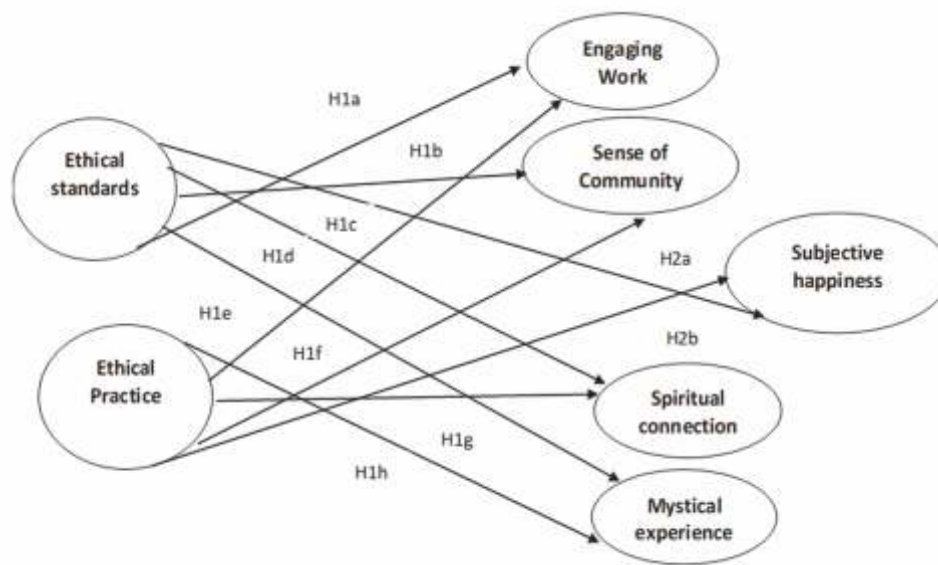
**Figure 2. The conceptual model on the relationship between ethical
Leadership and Spirituality at the workplace and subjective happiness**

Based on the above propositions, the following hypothesis is framed.

Hypothesis 2: Ethical Leadership is positively associated with the Subjective Happiness of teachers.

The sub-hypothesis based on the above hypothesis are as follows-

H2a: Ethical standards positively influence subjective happiness among teachers.

H2b: Ethical practice positively influences subjective happiness among teachers.

To the researcher's understanding, no model has been established showing linkages between the Ethical leadership characteristics of educational leaders and teachers' Spirituality at work and their subjective happiness in an emerging economy like India. Our research, hence, goes beyond the previous research and makes a novel contribution to the literature on leadership studies by studying the impact of ethical Leadership on Spirituality at work and subjective happiness in the education sector of India using a sample of senior secondary school teachers in Punjab

3. Methodology and Sources of Data

3.1 Scale Development

The structured questionnaire was designed to measure the constructs of Ethical Leadership (EL), Spirituality at the

Workplace (SWP), and Subjective Happiness (SH). Brown et al. (2005) utilised the 10-item Ethical Leadership Scale (ELS) to gauge ethical leadership. This scale evaluates how the employee views the supervisor's ethical conduct.

To measure Spirituality at work, Kinjerski and Skrypnek's (2006) instrument, which consists of 18 items and has a four-factor structure: engaging work, sense of community, spiritual connection, and mystical experience was used.

A 4-item scale developed by Lyubomirsky and Lepper in 1999 was adopted to assess employees' individual happiness.

3.2 Pilot Testing

Two researchers in the field reviewed the questionnaire, and their suggestions were incorporated into its improvement. Also, before executing the final research, a pilot study of 30 teachers of government senior secondary schools was conducted, and based on their feedback, the questionnaire's clarity was improved.

3.3 Sampling Plan and Sources of Data

The universe of the study comprises all government senior secondary schools situated in 22 districts of Punjab and all teachers teaching students of Grades 11 and 12 in these schools. The sample size is based on Yamane's 1967 studies; the present study employed a sample size of approximately

500. Multistage sampling was used. Hence, 38 schools were selected, and from each of these schools, 13 teachers were selected randomly to constitute a sample of 494 faculty respondents, which is quite close to 500. The research instrument used to collect the data was a structured survey questionnaire based on standardised scales. The information was collected from respondents using Google Forms and administered individually to get the requisite information. A complete and final response of 457 questionnaires was received, complete in all respects, deemed fit and adequate for further analysis. Hence, the scope of the present study is limited to the government senior secondary schools of Punjab region, India, and only teachers who were educating students in grades 11 and 12 were included in the survey.

3.4 Factors Affecting Ethical Leadership.

The present study adopted the three scales- the ethical Leadership scale (Brown et al. in 2005), Spirituality at Work (Kinjerski and Skrypnek (2006), and the Subjective Happiness scale (Lyumbomirksy & Lepper, 1999). The Spirituality at the Workplace and subjective happiness scales have already been distributed among four constructs and one construct, respectively. Nevertheless, our study's adoption of the ethical Leadership Scale includes 10 statements from prior research that operationalise the concept of ethical leadership. The literature on ethical leadership could not identify a standard factor structure for the statements assessing ethical leadership. The current study applied Exploratory Factor Analysis (EFA) to these 10 statements to create a standard factor structure for

ethical leadership. When using exploratory factor analysis, many assertions are condensed down to a small number of significant factors (Hair et al., 2006). The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity have been used in the present study to assess the applicability of EFA before applying it to the provided data. The results obtained from these two tests are significant as depicted in Table 1 and Table 2.

The present study retained those factors in EFA that were having eigen values greater than 1. Output of EFA produced three factors that explained 76.88 % of the total variance in data. Further, the extracted factors were given names i.e., "Ethical Standards" which accounted for 31.58 %, "Ethical Practice" which accounted for 26.48 %,"Personal Ethics" which was found to explain 18.81 % variance.

4. Results and Discussion

4.1 Results of Measurement Model

Structural equation modelling (SEM) has been employed to test the various research hypotheses. Before evaluating the structural model, we first examined the measurement model to check whether it displayed a satisfactory match. Confirmatory Factor Analysis (CFA) in AMOS was performed to verify the validity and reliability of the scales employed for this model. Composite Reliability (CR) and 'Average Variance Extracted (AVE) determined the validity and reliability of the constructs. To check internal consistency, the present study examined composite reliability (CR) statistics of the scales, and these values for each construct were found to be greater than the minimum cut-off value of 0.70 (Nunnally, 1978). Hence, it was

Table 1. KMO and Bartlett's Test of Ethical Leadership

Sr. No.	Variable	KMO	Bartlett's Test of Sphericity	DF	Sig.
1	Ethical Leadership	.831	Approx. Chi-Square = 3155	45	.000

Table 2. Measurement model for the constructs: Reliability

Constructs	CR	AVE
EW (Engaging work)	0.927	0.646
ES (Ethical Standard)	0.900	0.694
EP (Ethical Practice)	0.938	0.793
SOC (Sense of Community)	0.921	0.700
SC (Spiritual Connection)	0.922	0.797
ME (Mystical Experience)	0.957	0.881
SH (Subjective Happiness)	0.898	0.688

Note: CR: Composite Reliability, AVE: Average Variance Extracted

established that the constructs used in the measurement model had an adequate level of internal consistency. Further, the average variance extracted (AVE) for each construct was calculated, and these values were found to be higher than the minimum cut-off value of 0.5, as presented in Table 2.

These findings supported the discriminant validity of the constructs used in the model, as depicted in Table 3. Additionally, a loading larger than 0.5 on each statement's predicted structures was discovered. This result shows that the scales utilised in this model have convergent validity (Fornell & Larcker, 1981). According to these estimations of reliability and validity, the scales' measurement error has little to no impact on the model.

Additionally, since numerous data supporting the fit of the measurement model are provided in table 4 as follows, findings show a reasonable fit of the measurement model.

The above table revealed that the value of CMIN/DF <5 indicates a reasonable fit (Marsh & Hocevar, 1985). The value of GFI was found to be 0.833, which is greater than the minimum cut-off value of 0.8 (Baumgartner & Homburg, 1996). Additionally, it was discovered that the CFI and TLI values exceeded the 0.9 minimum cut-off value (Hair et al., 2006). Further, the value of RMSEA was found to be less than the cut-off value of 0.08 (Steiger, 1990). These statistics supported the measurement model in being adequately fit.

Table 3. Discriminant validity for the model 'Relationship of ethical leadership on spirituality at workplace and subjective happiness': Fornell & Larcker criterion

	EW	ES	EP	SOC	SC	ME	SH
EW	**0.804**						
ES	0.574	**0.833**					
EP	0.317	0.655	**0.890**				
SOC	0.626	0.227	0.117	**0.837**			
SC	0.205	0.250	0.547	0.146	**0.893**		
ME	0.359	0.340	0.236	0.280	0.209	**0.939**	
SH	0.191	0.228	0.124	0.031	0.157	0.163	**0.829**

Table 4. Fit indices for the model 'relationship of ethical leadership on spirituality at workplace and subjective happiness'

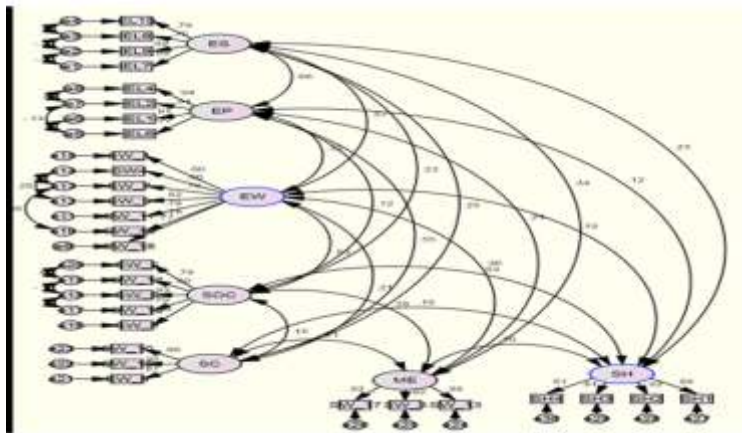|	Chi-square	df	CMIN/df	GFI	RMSEA	IFI	CFI	TLI
Criterion	--	--	1< CMIN/df<5	>0.8	<0.08	>0.9	>0.9	>0.9
Obtained value	1440.989	372	3.874	.833	.079	.920	.920	.906

Figure 3. Testing Confirmatory Factor analysis for investigating the relationship of ethical leadership on spirituality at workplace and subjective happiness

Testing Structural Model of Relationship of Ethical Leadership with Spirituality at the workplace and Subjective happiness

After acquiring the fit measurement model, the study's hypotheses are evaluated using a Confirmatory Factor Analysis and Structural Equation Modelling created with AMOS 18 (Figure 3 and Figure 4). Findings in this regard are exhibited in the table 5:

Table 5. Hypothesis testing for Structural model of Relationship of Ethical Leadership with Spirituality at Workplace and Subjective Happiness of Teachers

| Sr. No.	Relationship	Hypothesis	Estimate (Beta)	Std. error	t value (Beta/ St. error)	p-value	Decision
H1a	ES→EW (+)	Ethical standards positively influence Engaging work among teachers	.896	.047	19.131	0.000*	Supported
H1b	ES →SOC (+)	Ethical standards positively influence sense of community among teachers	.629	.070	9.012	0.000*	Supported
H1c	ES → SC (+)	Ethical standards positively influence spiritual connection among teachers	.241	.062	3.905	0.000*	Supported
H1d	ES → ME (+)	Ethical standards positively influence mystical experiences among teachers	.472	.060	7.828	0.000*	Supported
H1e	EP → EW (+)	Ethical practice positively influences Engaging work among teachers	.349	.053	4.375	0.000*	Supported
H1f	EP →SOC (+)	Ethical practice positively influences a sense of community among teachers	.346	.079	13.406	0.000*	Supported
H1g	EP → SC (+)	Ethical practice positively influences spiritual connection among teachers	.935	.070	1.625	0.000*	Supported
H1h	EP → ME (+)	Ethical practice positively influences mystical experiences among teachers	.111	.068	4.375	0.104	Not Supported
H2a	ES→SH (+)	Ethical standards positively influence subjective happiness among teachers	.334	.063	5.298	0.000*	Supported
H2b	EP→SH (+)	Ethical practice positively influences subjective happiness among teachers	.115	.071	1.619	0.105	Not Supported
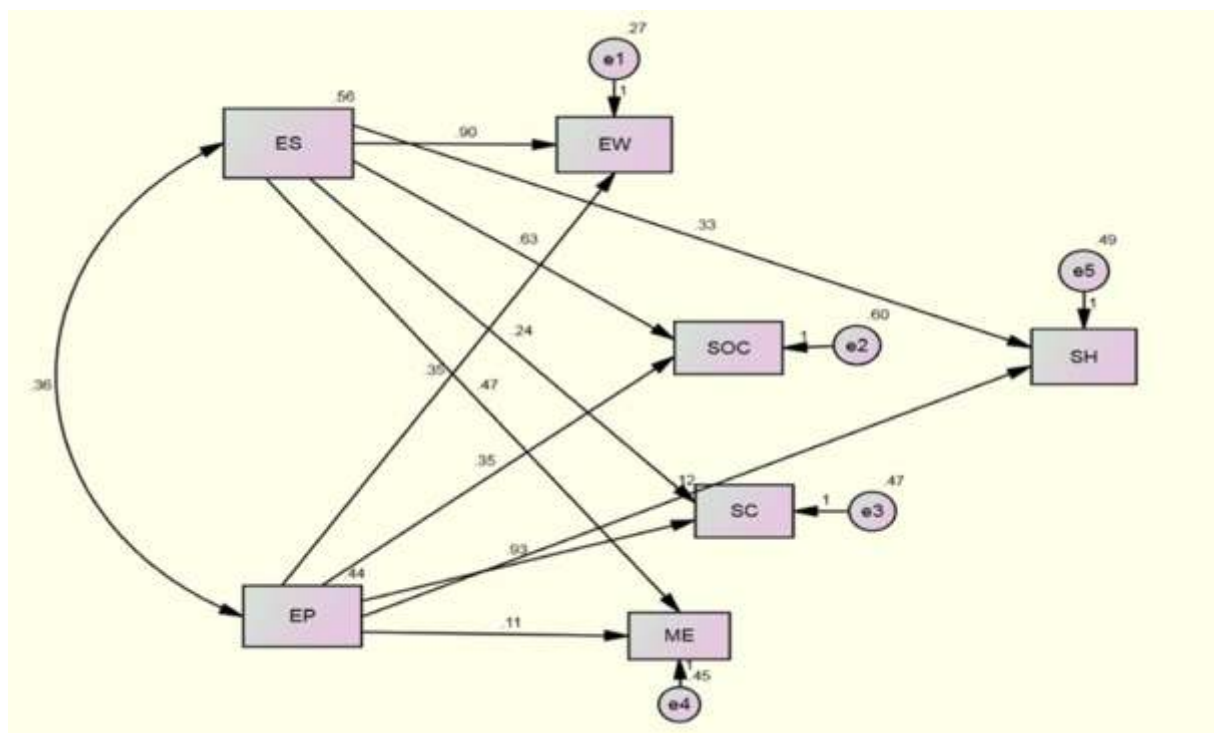
**Figure 4. SEM model of the Impact of Ethical Leadership on
Spirituality at the Workplace and Subjective happiness of Teachers**

The present research examined how ethical leadership affected four workplace spirituality variables (Engaging work, mystical experience, sense of community, and spiritual connection) and one factor of Subjective happiness. The hypotheses were tested using a sample of teachers employed in government senior secondary schools. Results indicated that out of 10 relationships proposed in the model, eight were significant at a five percent significance level. Ethical standards in educational leaders were found to be a substantial predictor of all variables of spirituality at the workplace, namely engaging work, a sense of community, a spiritual connection, and mystical experiences. This implies that in education institutions, when a leader (Principal/Head/Supervisor, etc.) sets ethical standards by making fair and balanced decisions, then followers (teachers) feel more engaged in their respective works in a meaningful manner and have a sense of belongingness and feeling of connectedness to other fellow colleagues. Also, setting ethical standards by leaders in these institutions is likely to make teachers experience a connection to a higher spiritual power, a positive state of energy, and complete joy and bliss at their workplace.

Ethical practices in educational leaders were found to be a strong predictor of three variables of Spirituality at the workplace: Engaging work, a sense of community, and spiritual connection. However, ethical practice failed to predict mystical experiences among teacher followers. Hence, if an educational leader practices ethics in an institution, then followers are expected to be engaged in their respective works in an effective manner. Also, when ethics are practised in the workplace, teachers feel a real sense of trust and connection with their coworkers. Further practising ethics in the workplace confirmed that a leader is more likely to help followers feel connected to a higher power and find inspiration from it. These results are consistent with the findings of Afsar et al. (2016), Astakoni (2022), and Riasudeen et al. (2020), who also observed a positive association between ethical leadership and workplace spirituality.

In determining the impact of ethical leadership on subjective happiness, it was observed that the ethical standards of educational leaders were a stronger predictor of subjective happiness among teachers than the ethical practices of these leaders, as supported by hypothesis testing. Hence, it can be

established that ethical standards are more important than ethical practices in an educational institution, as teacher followers are more likely to follow the ethical benchmarks a leader sets. Therefore, it has been suggested that leaders should set ethical standards/benchmarks in an organisation so that followers experience greater happiness at the workplace, which is in line with the findings of researchers like Kumar and Dhiman (2021), Srivastava et al. (2022), Cheng et al. (2022) Ejaz et al. (2022), Sarannee (2022) also. Consequently, follower teachers are more likely to experience happiness at the workplace and enjoy their work regardless of other environmental factors.

5. Practical Implications and Conclusion

This research offers numerous managerial implications for the Indian education sector and educational leaders in an emerging nation like India, who need to reassess their current ethical practices and standards for enhancing teachers' spirit of work and boosting their happiness and wellbeing to ensure sustainable Governance. Our research presents strong and sound evidence that ethical leadership may significantly enhance both Spirituality at the workplace and the subjective happiness of teachers based on a study of government schoolteachers in Punjab. Ethical standards and practices of educational leaders have a significant impact on follower teachers' spirit of engaging in meaningful work, a sense of community and connectedness, connection to higher spiritual power, and their happiness and wellbeing.

These findings have implications for the Indian education industry in general and schools in particular, wherein the educational leader (Principal/ Head/ supervisor) serves as a role model for the teachers employed there. The research demonstrates that the head of the school needs to establish ethical standards and set an example of how to do things in an ethical manner through ethical practices so that teachers/lecturers demonstrate a high level of involvement in their work and feel a personal connection with their coworkers and higher power. Also, it is confirmed that teachers experience ecstasy and joy in their workplace if ethical standards and practices are adhered to. To enhance teacher wellbeing, school principals must possess three essential capabilities and competencies, namely socio-emotional competence, contextual competence, and relationship building. (Cann et al., 2021; Goleman, 2021) .For instance, if leaders listen empathetically to faculty concerns and conversations, conduct fair and equitable resolution of issues, show empathy in problem-solving, and create a culture of openness and mutual trust, teacher satisfaction and subjective happiness would be increased.

Thus, the research proposes that organisations should foster an environment grounded on ethical leadership-based standards and practices to foster a healthy and positive work culture based on spirituality and teacher wellbeing. Such positive change in educational institutions with happy, engaged, spirituality-satisfied teachers would enhance the wellbeing of all stakeholders, like students and parents and contribute to societal transformation and welfare in general.

Institutions should employ their human resources practices in selecting ethical leaders as principals/Heads in educational institutions and retaining them to promote a culture of ethical leadership. Appointment of teachers to positions of leadership and authority, such as principals, heads of directors, and deans, should be made selectively and carefully, considering ethical behaviour. According to Babalola et al. (2016b), "Organisations can hire and develop those leaders who have a sense of ethical conducts in their vision and can also invest in management training programs focusing on both leaders' and employees' ethical behaviour or can make it a part of their in-role job requirement." Researchers like Spendlove (2007) also emphasise that 'leadership development interventions should be initiated at early stages in the academic profession and essentially managers at all levels must attend training programs for developing leadership skills. Specifically, educational institutions are believed to lack leadership capabilities due to little attention being given to leadership development. There is a need to design appropriate leadership programs tailored to the requirements of educational institutions (Ngcamu & Teferra, 2015).

Further ethical training and educational programs should be implemented consistently for all employees in educational institutions. It is recommended that customised ethical training programs be framed and made mandatory for all levels of leaders. These could be incorporated into the institutions' strategic plan and their broader training and development framework or specifically develop a model directed towards ethical Leadership (Lloyd & Mey, 2010). As suggested by Weaver et al.(1999), "Practical examples of classic components of ethics programs consist of a prescribed code of ethics, procedures to oversee and monitor ethical behaviour and disciplinary processes to manage unethical actions, also setting up an ethical committee which will be in charge of designing strategies and procedures of reporting ethical problems to upper-level management". This will inspire educational leaders to establish, demonstrate, and practice ethical behaviour and lead their followers, teachers/and faculty by it.

If the educational leader is dedicated to establishing a set of values based on kindness and fairness, it sets a positive tone for the whole organisation. Employees are happier and more productive when they can see their leaders have strong morals and a clear vision and feel more secure and satisfied with their job. In his famous book "*Give and Take*," Wharton professor Adam Grant establishes that a leader's kindness and generosity are strong predictors of team and organisational effectiveness. When organisational leaders develop positive, ethical, virtuous cultures, it boasts positive, constructive emotions and employee wellbeing, fosters relationship of employees' relationships with each other, amplifies their creativity, boasts their loyalty to the leader and organisation and significantly greater levels of organisational effectiveness is attained in terms of better performance financially, enhanced employee engagement, higher customer satisfaction, overall increased productivity.

In an increasingly globalised world, countries with strong education systems are better positioned to compete on the international stage. Good schools are fundamental to the progress and prosperity of a country. A country's long-term success, stability, and global standing are directly linked to the quality of its education system. Strong educational leadership is the backbone of a successful school. As confirmed by our research, ethical, strong education leaders are imperative not just for academic success but also for the overall happiness, morale, and spiritual health of teachers, students, and the entire school community. Ethical Principals /School leaders are like strong captains who should take the lead and create a lasting positive impact on teacher happiness and spirituality for long-term academic success. Furthermore, sustainable Governance in any educational institution is achievable with ethical leaders and motivated happy employees both working jointly towards achievement of sustainable goals.

6. Limitations and Future Research Directions

Our research is country-specific research exploring the connections between ethical leadership, workplace spirituality, and subjective happiness for sustainable governance in the education sector of an emerging Asian economy like India. Thus, the results cannot be generalised to other developed economies. However, we anticipate that this research work will motivate researchers to investigate the relationships between ethical leadership and various teacher work-related and wellbeing-related outcomes across the education sector of other American and European economies, too. Moreover, this is an industry-specific research study focusing specifically on the education industry, which is represented by government schools. Educational leaders (Principal/Head/Director) and follower teachers working in government senior secondary schools have been surveyed. Thus, the findings may have limited applicability to other sectors or industries.

Hence, future researchers can further extend this research to other industries and professions across different countries to examine the relationships between ethical leadership, workplace spirituality, and subjective happiness. This will exhibit a more comprehensive picture of the significance of the type of leadership and their style on followers/ employees' work-related and well-being outcomes across the globe for better sustainable Governance

References

Abubakar, I. R., Mifsud, M. C., Eustachio, J. H. P. P., Albrecht, C. F., Dinis, M. A. P., Borsari, B., ... and Dibbern, T. A. (2023). Governance in the implementation of the UN sustainable development goals in higher education: global trends. *Environment, Development and Sustainability*, 1-24.

Adnan, N., Bhatti, O. K., & Farooq, W. (2020). Relating ethical Leadership with Engaging work: How workplace spirituality mediates? *Cogent Business & Management*, *7*(1), 1739494.

Afsar, B., Badir, Y., & Kiani, U. S. (2016). Linking spiritual leadership and employee pro-environmental behaviour: The influence of workplace spirituality, intrinsic motivation, and environmental passion. *Journal of Environmental Psychology*, *45*, 79-88.

Aftab, J., Sarwar, H., Kiran, A., Qureshi, M. I., Ishaq, M. I., Ambreen, S., & Kayani, A. J. (2023). Ethical leadership, workplace spirituality, and job satisfaction: moderating role of self-efficacy. *International Journal of Emerging Markets*, *18*(12), 5880-5899.

Ahmad, S., Fazal-E-Hasan, S. M., & Kaleem, A. (2018). How ethical leadership stimulates academics' retention in universities: The mediating role of job-related affective wellbeing. *International Journal of Educational Management*, 32(7), 1348-1362.

Ahmad, S., Sohal, A. S., & Cox, J. W. (2020). Leading well is not enough: A new Insight from the ethical leadership, workplace bullying and employee wellbeing relationships. *European Business Review*, 32(2), 159–180.

Argyle, M. (1999). Causes and correlates of happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), WellbeingWellbeing: The foundations of hedonic psychology. *New York: Russell Sage Foundation,* 353–373.

Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological wellbeing: the mediating role of meaningful work. *Journal of Occupational Health Psychology*, 12 (3), 193–203.

Ashfaq, F., Abid, G., & Ilyas, S. (2021). Impact of ethical Leadership on employee engagement: role of self-efficacy and organisational commitment. *European Journal of Investigation in Health, Psychology and Education*, *11*(3), 962-974.

Ashmos, D. and Duchon, D. (2000). Spiritualityspirituality at work: a conceptualisation and measure. *Journal of Management Inquiry*, 9(2), 134-145.

Avolio, B.J., Walumbwa, F.O. and Weber, T.J. (2009). Leadership: current theories, research, and future directions. *Annual Review of Psychology*, 60, 421-449.

Babalola, S. S. (2016). The effect of leadership style, job satisfaction and employee-supervisor relationship on job performance and organisational commitment. *Journal of Applied Business Research*, *32*(3), 935.

Babič, Š. (2014). Ethical leadership and leader-member exchange (LMX) theory. *CRIS-Bulletin of the Centre for Research and Interdisciplinary Study*, *1*, 61-71

Bartels, m., Cacioppo, J. T., Van Beijsterveldt, T. C., and Boomsma, D. I. (2013). Exploring the association between wellbeing and psychopathology in adolescents. *Behavioral Genetics*, 43, 177–190.

Baumgartner, H. and Homburg, C. (1996). Applications of structural equation modelling in marketing and consumer research: A review. *International Journal of Research in Marketing*, 13(2),139-161.

Bello, S. M. (2012). Impact of ethical Leadership on employee job performance. *International Journal of Business and Social Science*, *3*(11), 228–236.

Benada, N., & Chowdhry, R. (2017). A Correlational Study of Happiness, Resilience and Mindfulness among Nursing Student. *Indian Journal of Positive Psychology, 8*, 105–107.

Benefiel, M., Fry, L. W., & Geigle, D. (2014). Spirituality and religion in the workplace: History, theory, and research. *Psychology of Religion and Spirituality, 6*(3), 175–187.

Brown, M. E., and Treviño, L. K. (2006). Ethical Leadership: A Review and Future Directions. *Leadership Quarterly*, 17 (6), 595 - 616.

Brown, M.E., Treviño, L.K. and Harrison, D.A. (2005). Ethical leadership: a social learning perspective for construct development and testing. *Organisational Behavior and Human Decision Processes*, 97(2), 117-134.

Calabrese, R.L. and Roberts, B. (2001). The promise forsaken: neglecting the ethical implications of leadership. *International Journal of Educational Management*, 15(6), 267-275.

Cann, R. F., Riedel-Prabhakar, R., & Powell, D. (2021). A model of positive school leadership to improve teacher wellbeing. *International Journal of Applied Positive Psychology*, *6*(2), 195–218.

Cheng, J., Zhang, L., Lin, Y., Guo, H., & Zhang, S. (2022). Enhancing employee wellbeing by ethical leadership in the construction industry: The role of perceived organisational support. *Frontiers in Public Health*, *10*, 935557.

Christoforatou, E. (2021). Teacher education for sustainable development within national frameworks: Squaring the circle from a German perspective. *International Journal of Development Education and Global Learning*, 13 (1), 1–15.

Chughtai, A., M. Byrne, & B. Flood (2015). Linking Ethical Leadership to Employee WellbeingWellbeing: The Role of Trust in Supervisors. *Journal of Business Ethics*, 128(3), 653–663.

Dadhich, A., & Bhal, K. T. (2008). Ethical leader behaviour and leader-member exchange as predictors of subordinate behaviours. *Vikalpa*, *33*(4), 15-26.

Dansereau Jr, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organisations: A longitudinal investigation of the role making process. *Organisational Behaviour and Human Performance*, *13*(1), 46-78.

Demirtas, O., & Akdogan, A. A. (2015). The effect of ethical leadership behavior on ethical climate, turnover intention and affective commitment. *Journal of Business Ethics*, 130 (1), 59–67.

Deniz, S. (2024). Effect of Ethical Leadership and Employee Voice on Happiness at the Workplace. *Current Research in Social Sciences*, *10*(1), 50–61.

Dey, M., Bhattacharjee, S., Mahmood, M., Uddin, M. A., & Biswas, S. R. (2022). Ethical leadership for better sustainable performance: Role of employee values, behavior and ethical climate. *Journal of Cleaner Production*, *337*.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index", *American Psychologist*, 55, 34

Diener, E. (2012). New findings and future directions for subjective wellbeing research. *American Psychologist, 67*(8), 590–597.

Ejaz, T., Anjum, Z. U. Z., Rasheed, M., Waqas, M., & Hameed, A. A. (2022). Impact of ethical Leadership on employee wellbeing: the mediating role of job satisfaction and employee voice. *Middle East Journal of Management*, *9*(3), 310–331.–43.

Elci, M., Sener, I., Aksoy, S., & Alpkan, L. (2012). The impact of ethical leadership and leadership effectiveness on employees' turnover intention: The mediating role of work relates to stress. *Procedia: Social and Behavioral Sciences*, 58, 289–297.

Engelbrecht, A. S., Heine, G., & Mahembe, B. (2014). The influence of ethical leadership on trust and Engaging work: An exploratory study. *SA Journal of Industrial Psychology*, *40*(1), 1-9.

Fendui, Q., Naveed, R. T., Adnan, M., & Kanwal, S. (2024). Ethical leadership and organisational performance: Employee happiness as a mediator and corporate social responsibility as a moderator. *Social Behavior and Personality: An International Journal*, *52*(5), 13051E-13060E.

Fowler, D. J. (2014). An investigation of ethical leadership perspectives among Ohio school district superintendents. *Ohio University*.

Gabriele, R. (2008). Orientations to happiness: Do they make a difference in a student's educational life? *American Secondary Education*, 36, 88–101.

Gerpott, F. H., Van Quaquebeke, N., Schlamp, S., & Voelpel, S. C. (2019). An identity perspective on ethical leadership to explain organisational citizenship behaviour: the interplay of follower moral identity and leader group prototypicality. *Journal of Business Ethics*, *156*, 1063-1078.

Giacalone, R. A. and C. L. Jurkiewicz: 2003, 'Toward a Science of Workplace Spirituality', in R. A. Giacalone and C. L. Jurkiewicz (eds.), *Handbook of Workplace Spirituality and Organizational Performance* (M.E. Sharpe, Armonk, NY), pp. 3–28.

Goleman, D. (2021). *Leadership: The power of emotional intelligence*. More Than Sound LLC.

Graen, G. B., & Scandura, T. A. (1987). Toward a psychology of dyadic organising. *Research in Organisational Behavior*.

hadda, R. K. and Deb, K. S. (2013). Indian family systems, collectivistic society, and psychotherapy. *Indian Journal of Psychiatry*, 55(6), 299.

Harrington W., Preziosi R., Gooden D. (2004). *Worldview resiliency of business degree graduate students–an examination of spiritual experiences and psychological attitudes. Assoc. Employ. Pract. Princ.* 119–124.

Hogg, M. A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review, 5*(3), 184–200.

Jean-Claude Garcia-Zamor (2003). Workplace Spirituality and Organisational Performance. *Public Administration Review, 63*(3), 355-363.

Johnson, C. E. (2009). Spirituality and ethical leadership: moral persons and moral managers. *Faculty Publications-School of Business*, 79, 75–86.

Joshanloo, M. (2014). Eastern conceptualisations of happiness: Fundamental differences with Western views. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Wellbeing, 15*(2), 475–493.

Kanungo, R. N. (2001). Ethical values of transactional and transformational leaders. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, *18*(4), 257-265.

Kaur, R. (2023). The relationship between managerial leadership and employee happiness: Evidence from private universities in Punjab. *Организационная психология*, *13*(4), 57-66.

Khuntia, R., and Suar, D. (2004). A scale to assess ethical leadership for Indian private and public sector managers. *Journal of Business Ethics*, 49, 13-26.

Kim, D., Moon, C. W., & Shin, J. (2018). Linkages between empowering leadership and subjective wellbeing and work performance via perceived organisational and coworker support, *Leadership & Organization Development Journal*, 39(7), 844–858.

Kinjerski, V. & Skrypnek, B.J. (2006). Measuring the intangible: Development of the Spirit at Work Scale. *Sixty-fifth Annual Meeting of the Academy of Management*, *Atlanta*, A1-A6.

Kolodinsky, R. W., Giacalone, R. A., & Jurkiewicz, C. L. (2008). Workplace values and outcomes: Exploring personal, organisational, and interactive workplace spirituality. *Journal of Business Ethics, 81*(2), 465–480.

Kolodinsky, R.W., Giacalone, R.A., and Jurkiewicz, C.L. (2008). Workplace values and outcomes: exploring personal, organisational, and interactive workplace spirituality. *Journal of Business Ethics*,81(2), 465–480.

Krishnakumar, S. & Neck, C.P. (2002). The "what," "why," and "how" of Spiritualityspirituality in the workplace. *Journal of Managerial Psychology*, 17(3), 153–164.

Kumar, V., & Dhiman, S. (2021). Happiness and workplace wellbeing: Transformational Leadership and the role of ethical and spiritual values. *The Palgrave Handbook of Workplace Wellbeing*, 369–412.

Kumar, V., & Dhiman, S. (2021). Happiness and workplace wellbeing: Transformational Leadership and the role of ethical and spiritual values. *The Palgrave Handbook of Workplace Wellbeing*, 369–412.

Kumar, V., and Vij, S. (2014). The role of Spirituality and ethics in transformational leadership. *In Proceedings of Conference International Conference on Spirituality: the essence of ethical leadership and management*. School of Management Sciences (SMS) Varanasi, India,1-15.

Lambert, M., Fleming, T., Ameratunga, S., Robinson, E., Cringle, S., Sheridan, J., . . . Merry, S. (2014). Looking on the bright side: An assessment of factors associated with adolescents' happiness. *Advances in Mental Health*, 12, 101–109.

Lim, L. Y. (2012). *The impact of perceived leadership and ethical leadership behaviour on job satisfaction and organisational commitment* (Doctoral dissertation, UTAR).

Liu, J., O. Siu, and K. Shi (2010). Transformational Leadership and Employee Wellbeing: The Mediating Role of Trust in The Leader and Self-Efficacy. *Applied Psychology*, 59(3), 454-479.

Lloyd, H. R., & Mey, M. R. (2010). An ethics model to develop an ethical organisation. *SA Journal of Human Resource Management*, *8*(1), 1-12.

Luis Daniel, J.

(2010). The effect of workplace spirituality on team effectiveness. *Journal of Management Development*, 29(5), 442-456.

Lyubomirsky, S. (2001). Why are some people happier than others? The role of cognitive and motivational processes in wellbeing. *American Psychologist*, 56, 239–249.

Lyubomirsky, s., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, 9, 111–131.

Marques, J., Dhiman, S., and King, R. (2005). Spirituality in the workplace: Developing an integral model and a comprehensive definition. *Journal of American Academy of Business*, 7(1), 81-91.

Mayer, D.M., Kuenzi, M. and Greenbaum, R.L. (2010). Examining the link between ethical leadership and employee misconduct: the mediating role of ethical climate. *Journal of Business Ethics*, 95(1), 7-16.

McKee, M. C., Driscoll, C., Kelloway, E. K., & Kelley, E. (2011). Exploring linkages among transformational leadership, workplace spirituality and wellbeing in health care workers. *Journal of Management, Spirituality & Religion*, 8(3), 233–255.

Nauman, R., & Qamar, A. (2018). The impact of ethical leadership on employee productivity. *Journal of Management and Human Resource (JMHR)*, *1*, 66-84.

Newman, A., Allen, B. & Miao, Q. (2015). I can see clearly now: The moderating effects of role clarity on subordinate responses to ethical leadership. *Personnel Review*, 44(4), 611–628.

Ngcamu, B. S., & Teferra, D. (2015). The effect of skills development programmes and leadership opportunities brought by transformation: A case of the Durban University of Technology. *Journal of Social Sciences*, 45(2), 130-139.

O'Keefe, D. F., Messervey, D., & Squires, E. (2017). Promoting ethical and pro-social behaviour: The combined effect of ethical leadership and coworker ethicality. *Ethics and Behavior*, 28 (3), 235–260.

Oishi, S., Graham, J., Kesebir, S., and Galinha, I. C. (2013). Concepts of happiness across time and cultures. *Pers. Soc. Psychol. Bull*. 39, 559–577. doi: 10.1177/0146167213480042

Plinio, A. J., Young, J. M., & Lavery, L. M. (2010). The state of ethics in our society: A clear call for action. *International Journal of Disclosure and Governance*, 7, 172–197.

Polemikou, A., & Da Silva, J. P. (2022). Readdressing Spiritual Growth: What Can We Learn From Childhood Education? *Journal of Humanistic Psychology*, 62(3), 334-351.

Qing, M. & Asif, M. and, Hussain, A. and Jameel, A. (2020). Exploring the impact of ethical leadership on job satisfaction and organisational commitment in public sector organisations: The mediating role of psychological empowerment. *Review of Managerial Science, Springer*, 14 (6),1405–1432.

Ratnakar, R., & Nair, S. (2012). A Review of Scientific Research on Spirituality. *Business Perspectives and Research*, 1(1), 1-12.

Resick, C. J., Martin, G. S., Keating, M. A., Dickson, M. W., Kwan, H. K., & Peng, C. (2011). What ethical leadership means to me: Asian, American, and European perspectives. *Journal of Business Ethics*, 101, 435–457.

Riasudeen, S., & Singh, P. (2021). Leadership effectiveness and psychological wellbeing: the role of workplace spirituality. *Journal of Human Values*, 27(2), 109-125.

Riasudeen, S., & Singh, P. (2021). Leadership Effectiveness and Psychological Wellbeing: The Role of Workplace Spirituality. *Journal of Human Values*, 27(2), 109-125.

Rivers, J., Thompson, N., & Jeske, D. (2018). Dedicated but exhausted? The role of ethical leadership for employee wellbeing in UK student unions. *Journal of Human Resource Management*, 21(2), 16-27.

Sabir, S. (2020). A study on Ethical leadership perceptions and its impact on teachers' commitment in Pakistan. *International Journal of Educational Leadership and Management*, 28–53.

Saleem, A. & Bhutta, M. & Abrar, M. & Bashir, M. (2024). Leader's Ethical Behaviour: A Precursor to Employees' Wellbeing Through Emotions Management. 249, 10.2139/ssrn.4873611.

Segrin, C., & Taylor, m. (2007). Positive interpersonal relationships mediate the association between social skills and psychological wellbeing. *Personality and Individual Differences*, 43, 637–646.

Seligman, M. (2011). Flourish. New York, NY: Free Press.

Sheep, M.L. (2006). Nurturing the whole person: the ethics of workplace spirituality in a society of organisations. *Journal of Business Ethics*, 66 (4), 357-369.

Singh, K., Jain, A., & Singh, D. (2014). Satsang: A culture-specific effective practice for wellbeing. In H. Águeda Marujo & L. M. Neto (Eds.), *Positive nations and communities: Collective, qualitative and cultural-sensitive processes in positive psychology* (pp. 79–100). Springer Science + Business Media.

Spendlove, M. (2007). Competencies for effective leadership in higher education. *International Journal of Educational Management*, 21(5), 407-417.

Srivastava, S., Madan, P., & Pandey, D. N. (2023). Does remaining silent help in coping with workplace incivility among hotel employees? Role of personality. *Journal of Hospitality and Tourism Management, 54,* 361–372.

Srivastava, S., Mendiratta, A., Pankaj, P., Misra, R., & Mendiratta, R. (2022). Happiness at work through spiritual Leadership: A self-determination perspective. *Employee Relations: The International Journal*, 44(4), 972-992.

Stouten, J., Baillien, E., Van den Broeck, A., Camps, J., De Witte, H. and Euwema, M. (2010). Discouraging bullying: The role of ethical leadership and its effects on the work environment. *Journal of Business Ethics,* 95(1), 17-27.

Suar, D., Jha, A. K., Das, S. S., Alat, P., and Patnaik, P. (2020). What Do Millennials Think of Their Past, Present, and Future Happiness, and Where Does Their Happiness Reside? *J. Constructivist Psychol.* 1–17. doi: 10.1080/10720537.2020.1805657.

Supa Pengpid & Karl Peltzer, (2019).Sedentary Behaviour, Physical Activity and Life Satisfaction, Happiness and Perceived Health Status in University Students from 24 Countries," IJERPH, *MDPI,* 16(12), s 1-7, June.

Suparman, L., Muttaqillah, M., and Jalaludin, J. (2021). The Effect of Ethical Leadership and Workplace Spirituality on the Implementation of Organizational Culture and Organizational Commitments. *Advances in Social Science. Education and Humanities Research*, 556 (0), 46-52.

Teimouri, H., Hosseini, S. H., and Ardeshiri, A. (2018). The role of ethical leadership in employee psychological wellbeing (Case study: Golsar Fars Company). *Journal of Human Behavior in the Social Environment*, 28(3), 355-369.

Toor, S. R., and Ofori, G. (2009). Ethical leadership: examining the relationship with full range leadership model, employee outcomes and organisational culture. *Journal of Business Ethics*, 90, 533–547.

Treviño, L. K., and Brown, M. E. (2004). Managing to be ethical: Debunking five business ethics myths. *Academy of Management Executive*, 18, 69-204.

Treviño, L. K., Brown, M., & Hartman, L. P. (2003). A qualitative investigation of perceived executive ethical Leadership: Perceptions from inside and outside the executive suite. *Human Relations*, 56(1), 5-37.

Trinh, L., and Khanh, H. (2019). Happy people: Who are they? A pilot indigenous study on conceptualisation of happiness in Vietnam. *Health Psychol Rep. 7,* 296–304. doi: 10.5114/ hpr.2019.88527

Verma, P., Arora, N., & Ahmed, E. (2023). Leading With Happiness: The Institutional Happiness Framework for Higher Education Leaders. In *Global Leadership Perspectives on Industry, Society, and Government in an Era of Uncertainty* (pp. 132–147). IGI Global.

Walumbwa, F. O., Mayer, D. M., Wang, P., Wang, H., & Workman, K. (2011). Linking ethical leadership to employee performance: The role of leader-member exchange, self-efficacy and organisational identification. *Organisational Behaviour and Human Decision Processes*, 115, 204–213.

Wang, D., Feng, T., & Lawton, A. (2017). Linking ethical leadership with firm performance: A multidimensional perspective. *Journal of Business Ethics*, *145*, 95-109.

Wani M., Dar A. A. (2017). Optimism, happiness, and self-esteem among university students. *Indian J. Posit. Psychol.* 8, 275–279.

Weaver, G. R., Trevino, L. K., & Cochran, P. L. (1999). Integrated and decoupled corporate social performance: Management commitments, external pressures, and corporate ethics practices. *Academy of Management Journal*, *42*(5), 539–552.

Yang, C., (2014). Does Ethical Leadership Lead to Happy Workers? A Study on The Impact of Ethical Leadership, Subjective Bell-Being, and Life Happiness in the Chinese Culture. *Journal of Business Ethics*, 123(3), 513–525.

Yang, C., Ding, C. G., & Lo, K. W. (2016). Ethical leadership and multidimensional organisational citizenship behaviours: The mediating effects of self-efficacy, respect, and leader-member exchange. *Group & Organization Management*, *41*(3), 343-374.

Yousaf, K., Abid, G., Butt, T. H., Ilyas, S., & Ahmed, S. (2019). Impact of ethical Leadership and thriving at work on the psychological wellbeing of employees: Mediating role of voice behavior. *Business, Management and Economics Engineering*, *17*(2), 194–217.

Zaffar, I., & Gani, A. (2022). What makes employees happy at work? Evidence from cross-sectional data in India. *International Journal of Happiness and Development*, *7*(1), 15-39.

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Examining Alternative Dispute Resolution and Job Satisfaction: The Mediating Role of Employee Motivation

Priyanka R. Naagar
Assistant Professor
Department of Management Studies,
G. L. Bajaj Institute of Technology and
Management (GLBITM),
Greater Noida, Uttar Pradesh, India
E-mail: priyankaraninaagar@gmail.com

Shabnam Saxena
Professor
Haryana School of Business,
Guru Jambheshwar University of Science and Technology,
Hisar-125001, Haryana (India)
E-mail: shabnamsaxena@gmail.com

A b s t r a c t

This paper examines the effect of alternative dispute resolution on job satisfaction through the mediating role of employee motivation. The study utilizes a quantitative approach focusing on manufacturing and service organizations across 17 Indian industries with high dispute occurrence. Data was gathered from 289 middle-level employees using a structured sampling process to ensure a representative analysis of ADR's impact on job satisfaction and employee motivation across diverse sectors. Multiple regression analysis revealed that alternative dispute resolution (ADR) had a positive and significant effect on job satisfaction (JS) and employee motivation (EM). Furthermore, the bootstrapping analysis revealed that EM mediates the effect of ADR on JS. This study uniquely applies Herzberg's motivation-hygiene theory to explore how alternative dispute resolution (ADR) practices enhance job satisfaction and motivation. This study offers valuable insights for economic and organizational development, teaching, and research by promoting effective dispute resolution and its impact on employee wellbeing and organizational success. The research uniquely examines the impact of ADR on JS, with a focus on EM's mediating role. It contributes valuable insights for academic research and practical applications in the corporate sector.

Keywords: *Alternative dispute resolution, Job satisfaction, Employee motivation, Mediation*

1. Introduction

Dispute and conflict are connected but distinct concepts. The term conflict is about the mismatch of interests, while the dispute is the next stage of the conflict that includes the resolution of legal and complex issues (Maiti & Choi, 2021). The presence of disputes/conflicts within an organization does not indicate healthy and peaceful relations among employees, employers, and the organization. In the words of the Industrial Dispute Act (1947), *"Industrial dispute defined as any dispute or difference between employers and employers or between employers and workmen, or between workmen and workmen, which is connected with the employment or non-employment or the terms of employment or with the conditions of labor, of any person"* (Gawas, 2018). Dispute resolution is the process of resolving disputes among different parties. Negotiation, Mediation, arbitration, and conciliation are well-known methods included in ADR (Illankoon et al., 2022). Based on time and cost factors, different involved parties prefer alternate methods.

Since employees are no longer required to comply with the ADR policies adopted by the organizations and receive satisfaction from them without any intrinsic motivational attitude, the majority of organizations are attempting to identify different ways of employee satisfaction by motivating them and other effecting variables (Mollaei et al., 2021). A company has more chances and moves faster toward success if its people are satisfied with their work (Gaile et al.*,* 2022). To achieve this success, it is important to understand the key factors that influence the JS of employees. Motivation gives a high penetration to JS (Ozturk et al., 2021). EM plays a key role in the organization's development. Motivation is a cognitive decision-making process (Bleda et al., 2021). In the absence of motivation, employees make their own decisions that are not in favor of the organization. Various theories viz; Herzberg's two-factor theory, Maslow's need hierarchy theory, and Vroom's expectancy theory proved the importance of motivation in the satisfaction of employees (Badubi, 2017; Myers, 2021). In the reference to EM, a question arises: Do EM is related somewhere to organizational management policy structure? In answer to this question, some empirical studies have explored the association between organizational policy framework and EM (Okojie, 2009). Herzberg's motivation theory consists of two factors: hygiene and motivating factors. The motivating factors include recognition, promotional growth, achievement, responsibility, etc., whereas hygiene

factors contain relations with the boss, work conditions, job security, supervision, pay and benefits, company policy, etc. (Lee et al., 2022). The motivating factor is to give prescribed achievements and recognition to satisfy employees. On the other hand, for the second factor, the theory prescribes taking care of the hygiene factors that can cause dissatisfaction (Fareed & Jan 2016). The presence of hygiene factors does not necessarily create job satisfaction, but their absence can lead to dissatisfaction. Similarly, motivating factors can enhance job satisfaction when present.

The previous studies identified causes of grievance and conflict related to organization policy, working conditions, salary, benefits, less supervision, and bad relations among employees, employers, and organizations (Ampofo et al., 2021). These issues were taken into mind to maintain employee motivation, which leads to satisfaction. If these issues are not taken into consideration, they may initially manifest as grievances but eventually turn into disputes and conflicts (Germann & Sambanis, 2021). Because organizational policies are a hygienic factor to consider in order to avoid dissatisfaction, the conflict resolution mechanism is also included in organizational policies. It appears that the dispute resolution/ADR method and EM are related in some way, as Herzberg's two-factor theory revealed an indirect relationship (Badubi, 2017). If employee-oriented policies are framed, employees will feel motivated (Ludwikowska, 2022). Likewise, in some studies, conflict and JS are taken together, and results show there is an association between conflict and EM (Riyanto et al., 2021). In the policy framework of any organization, a dispute redressal mechanism is also considered, so conflict orientation and its redressal mechanism are also a part of organizational management. How effectively a dispute is resolved gives automatic motivation to employees (Moon & Browning, 2022). Conflict and JS show a significant relationship (Kang, 2010). Conflict is a broader term of dispute, and some studies have also studied a direct relationship between motivation and JS (Panda et al., 2021). The literature has revealed the direct effect of conflict/grievance on satisfaction but in different terms. Therefore, there is a gap in ADR's direct or indirect relation (a combination of Mediation, arbitration, conciliation, and negotiation) with JS. While Herzberg's two-factor theory has been applied in various contexts, including employee motivation, job satisfaction, and conflict management, its specific integration with ADR in relation to EM and JS remains under-explored. This study addresses this gap by directly examining how ADR influences EM and JS through

the lens of Herzberg's framework. The main objective of the current study is to examine the effect of ADR on JS with the mediating effect of EM. Further, to achieve this main objective, the following sub-objectives are:

- ◆ To examine the direct effect of ADR on EM.

- ◆ To examine the direct effect of ADR on JS.

- ◆ To examine the direct effect of EM on JS.

- ◆ To investigate the indirect effect of ADR on JS through the mediating effect of EM.

2. Literature Review and Hypotheses Development

The study was developed by reviewing the available literature in the context of each variable, and the relational variables were selected for analysis. The framework of this study is based on Frederick Herzberg's motivation hygiene theory, which is described in detail in book entitled "The Motivation to Work" (Herzberg et al., 2017). The current model demonstrates the hypotheses regarding the relationships between ADR, EM, and JS. ADR and JS are independent and dependent variables, respectively, while EM is a mediating variable.

2.1 Alternative Dispute Resolution and Employee Motivation

In organizational management, various factors play a critical role in driving organizational development. Dispute resolution management is one such important aspect (Colvin, 2003). The terms "conflict" and "dispute" are broader forms of "grievance," making it essential to address them effectively at each stage. While disputes can be challenging to manage, effective management often leads to positive organizational growth (Badriyah et al., 2024; Yadav et al., 2022). Organizational success is influenced by multiple factors, including employee engagement, motivation, commitment, and retention. Employee motivation, in particular, is integral to an organization's success (Riyanto et al., 2021). If dispute resolution management contributes to organizational success, then employee motivation must also be emphasized. A study found that employee voice aids conflict resolution, reducing turnover and intentions to quit (Gramberg et al., 2020). However, bullying cases often require tailored solutions, as resolutions are less likely despite employee voice.

A study found that conflict resolution strategies significantly impact employee commitment and organizational effectiveness (London & Howat, 1978). Approaches like confronting enhance subordinates'

commitment while forcing affects supervisors' commitment, and withdrawal reduces group dedication. A study on dispute management at Indigo Blues found that effective conflict resolution improves employee performance (Archana & Manjunatha, 2023). Key drivers of conflict include heavy workloads, poor leadership, and limited participation, with suggested solutions like open communication, transparent policies, teamwork, and training. A study in the Nigerian banking sector found that integrating and compromise strategies improve employee performance, with integration being more effective. Emphasizing motivation, socio-economic conditions, and training can enhance dispute resolution, productivity, and workplace harmony (Olannye & Aliku, 2022; Liubokhynets, 2022). A similar study inquires into the effects of functional and dysfunctional conflict models on employee work motivation (Agustina & Febrian, 2021). Results found that well-managed conflict improves employee motivation more than dysfunctional conflict. A study examines how workplace conflict and misconception influence employee motivation (Yolanda & Purba, 2018). This study reveals a link between work conflict and lower employee motivation and the significance of effective communication and conflict management in maintaining high motivation.

The impact of conflict resolution, stress, and motivation on employee performance is investigated (Alma'Arif et al., 2022). Conflict and stress negatively affect performance, but motivation can mitigate these impacts. A study at AHU found a small positive link between the avoiding strategy and achievement motivation, showing that conflict management tactics influence motivation (Waswas & Abu-Darwish, 2018). A study investigates how ethical leadership can improve employees' resolution efficacy, helping them manage geographic point conflicts (Babalola et al., 2016). Results support the premise that ethical leadership promotes dispute resolution and employee motivation. A different study explores the role of organizational procedures, or "due process," in settling employee-employer issues (Aram & Salipante, 1981). To improve employee happiness and motivation, it is important to establish clear objectives, provide decision-maker freedom, and implement balanced procedures.

The literature emphasizes that effective conflict resolution enhances employee engagement and performance, with strategies like open communication and training fostering commitment across industries. While direct studies on ADR and employee motivation are lacking, existing research

suggests a positive connection, leading to the proposed hypothesis.

H1: *ADR has a positive effect on EM.*

2.2 Alternative Dispute Resolution and Job Satisfaction

Effective conflict resolution and leadership influence job satisfaction, which is crucial for organizational success (Aryawan et al., 2024; Yang, 2014). Studies show that transformational leadership enhances job satisfaction and cooperative conflict resolution, promoting integration and motivation (Yang, 2012). Likewise, research in educational institutions, primarily Government Technical Colleges (GTCs) in Kano State, Nigeria, has demonstrated the impact of conflict resolution tactics on teacher job satisfaction (Ademola et al., 2023). Negotiation, arbitration, good communication, and harmonization have all helped increase job satisfaction. Research suggests that school administrators should receive additional training to enhance conflict resolution abilities, potentially leading to increased teacher job satisfaction (Ibanga et al., 2023).

In Serbia, the association between workplace conflicts and job satisfaction has been investigated (Pavlovic et al., 2021). While conflicts are rare, they arise from personal, organizational, and communication issues. Effective resolution tactics like cooperation and rivalry are preferred, and better planning and resource allocation can reduce conflicts and increase job satisfaction. The Bangladeshi readymade garment (RMG) industry confronts considerable issues in terms of work satisfaction and conflict resolution (Rahman et al., 2023). Employee unhappiness, driven by poor conditions, low pay, and job insecurity, is mitigated by effective conflict resolution, which boosts job satisfaction. Employment dispute resolution (EDR) processes, such as Mediation, arbitration, and peer panels, are critical in resolving employment-related problems (Bingham, 2004). Both employer-based and third-party methods effectively resolve workplace disputes, such as discrimination and wrongful discharge, enhancing job satisfaction. The significance of employee loyalty in conflict resolution has been investigated, and findings show that more loyal employees use less formal channels to express their dissatisfaction (Olson-Buchanan & Boswell, 2002). This approach reduces job search activity and resignation intent, highlighting loyalty and voice in successful conflict resolution.

The literature highlights the importance of strong leadership, effective conflict resolution, and a supportive work environment in enhancing job satisfaction.

Transformational leadership and conflict resolution training are key to managing workplace disputes. While no direct study links alternative dispute resolution (ADR) and job satisfaction, existing research suggests exploring this connection. The following hypothesis is proposed:

H2: *ADR has a positive effect on JS.*

2.3 Employee Motivation and Job Satisfaction

In the realm of human resource management and organizational behavior, employee motivation and job satisfaction are two pivotal components that significantly influence individual performance and overall organizational effectiveness (Hemsworth et al., 2024). The literature comprises a diverse range of research studies that aim to comprehensively understand the relationship between these factors. The foundations for exploring the dynamics between motivation and job satisfaction are rooted in Herzberg's Two-Factor Theory and Edwin Locke's Goal-Setting Theory (Nurdiansyah et al., 2020). For instance, a study conducted at Bank Rakyat Indonesia revealed that work motivation positively impacts job satisfaction, yielding significant results (Tietjen & Myers, 1998). Similarly, research on Cooperativa Café Timor confirmed a positive relationship between motivation, job satisfaction, and employee performance (Carvalho et al., 2020). Further studies have investigated the impact of remuneration, effective communication, organizational policies, and a supportive organizational culture on employee motivation. For example, Cvjetkovic (2022) found that satisfactory remuneration and fair organizational policies significantly enhance employee motivation, which, in turn, is closely linked to job satisfaction. A study by Jwmaa et al. (2022) emphasized the role of employees, management, and organizational culture in determining job satisfaction levels.

Research conducted at "PT Megamas Plaza Bangunan" highlighted that while motivation alone plays a critical role in improving performance, job satisfaction also contributes positively to performance outcomes (Riyanto et al., 2021). Another study confirmed that both motivation and job satisfaction directly influence organizational performance (Wang et al., 2024; Mehmeti, 2020). In the IT industry, research demonstrated that work environment factors, such as job security, organizational culture, and career growth opportunities, act as significant motivators and show a strong positive correlation between work motivation and job satisfaction (Tiwari et al., 2023).

These studies collectively indicate a substantial relationship between employee motivation and job satisfaction.

However, to achieve the primary objective of the current study, it is essential to further validate this relationship and explore the mediating effects between these variables. To confirm the influence of employee motivation on job satisfaction, the following hypothesis is proposed:

H3: EM has a positive effect on JS.

2.4 Mediating Role of EM in the Relationship between ADR and JS

The relationship between conflict resolution, job satisfaction, and employee motivation is essential for enhancing employee performance and organizational effectiveness. Conflict resolution significantly influences job satisfaction, with job satisfaction mediating the impact of conflict on perceived job effectiveness (Ye et al., 2019). Leadership and conflict management also play a crucial role in job satisfaction across various sectors (Anastasiou, 2020). Employee motivation helps balance the effects of conflict resolution on job satisfaction. Emotional exhaustion, caused by role conflict and ambiguity, mediates this relationship, leading to lower job satisfaction (Bulan, 2022).

Additionally, work motivation enhances employee engagement, which in turn improves performance (Riyanto et al., 2021). Transformational leadership affects work-life conflict, job satisfaction, and psychological wellbeing, though its direct impact on job satisfaction may involve other factors (Marnoto et al., 2024; Munir et al., 2012). Moreover, combining conflict management with job motivation strengthens employee commitment and retention (Abuzaid et al., 2022).

Overall, effective conflict management, leadership, and employee motivation are critical for improving job satisfaction and fostering a healthy work environment (Adnan et al., 2022). However, the relationship between alternative dispute resolution (ADR), job satisfaction, and the mediating role of employee motivation remains unexplored. The following hypothesis is proposed:

H4: EM positively mediates the relationship between ADR and JS.

3. Research Methodology

3.1 Sample and Data Collection

From the initial process of sample selection to data collection, all ethical considerations and the confidentiality of respondents were strictly maintained. To get a holistic view of the current study, diversified Industries e.g., Oil & Gas, Chemical, Food & Beverage, Textile, Iron & Steel, Hospitality, Finance & Insurance, Healthcare, Paper, Transportation, Automobile, Banking, Construction, IT & ITES, Electronics, Telecommunications, and Entertainment & Media were picked from manufacturing and service sector across India. In many studies, researchers cannot reach everyone in the universe of the study, so they choose a small group, called a sample, to represent the whole bunch. This study carefully selected 17 Indian industries targeting 70 organizations (listed under "Federation of Indian Chambers of Commerce and Industry") for data collection. Among these were 22 public and 22 private organizations, out of which 33 organizations belonged to the manufacturing sector, while 37 were from the service sector. Initially, the researcher aimed to include more organizations in the study. As a result, the researcher was only able to gather data from the organizations that agreed to collaborate.

Middle-level employees (managerial or supervisory positions, typically not in top executive roles but above entry-level positions) were the target respondents in this study. A purposive sampling technique was used to choose the organizations and data collection, whereas a disproportionate sampling method was used to choose the study's respondents. 600 respondents were finalized to ensure equal representation, and ten questionnaires were distributed to each organization. Out of 600, only 318 questionnaires were received back, out of which 289 were considered usable for further study, as 29 questionnaires were left out because of incomplete information and data. A sample size is a representative fraction of the population utilized for research and analysis. Five times of total statements is good to select the sample size, but to strengthen the present study, 15 times of the total statements are proposed and utilize a self-structured questionnaire to collect the data (Ooi et al., 2024; Hair et al., 2010).

A detailed description of the sample is mentioned in Table 1. This table summarizes data from 289 respondents across various categories. The majority of respondents are male (52.6%) and married (80%). Most earn between ₹25,001 and ₹50,000 per month (27.7%), with a significant proportion earning up to ₹25,000 (22.9%). Employment is predominantly permanent (89.7%), and 78.1% work in manufacturing. Organizations are largely privately owned (87.7%) and were mainly established between 2001 and 2021 (45.9%), with a smaller number founded before 1900 (7.7%). The data spans 70 organizations operating in India. The information about the organizations is provided in the appendix of this research study.

Table 1. Distribution and characteristics of the sample

Variables	Categories	No.	(%)
Gender	Male	152	52.6
	Female	137	47.5
Marital status	Married	231	80
	Unmarried	58	20
Income (monthly)	Up to 25,000	66	22.9
	25,001 -50,000	80	27.7
	50,001 – 75,000	48	16.5
	75,001 – 1,00,000	53	18.1
	Above 1,00,001	42	14.8
Employment Status	Permanent	259	89.7
	Temporary	30	10.3
	(Part-time, Contractual)		
Nature of Organization	Manufacturing	225	78.1
	Service	64	21.9
Year of Establishment of your	Before 1900	22	7.7
Organization	1900- 1950	21	7.2
	1951-2000	113	39.2
	2001-2021	133	45.9
Sector of Organization	Public	36	12.3
	Private	253	87.7

Notes: *Number of organizations operating in India, included: 70*
Total number of respondents included: 289

3.2 Techniques Applied for the Data Analysis

Exploratory factor analysis was conducted, and descriptive statistics were calculated. Then, confirmatory factor analysis was performed to determine the authenticity of constructs and to check the validity and model fitness of data. Further, the mediation model was analyzed via regression analysis using process macro. Bootstrapping effects were also checked during the mediation analysis.

3.3 Measures/Instruments

Table 4 elaborates on the measurement scale used in this study's survey. Entire statements were measured on a 'five-point Likert scale' ranging from "strongly disagree" (1) to "strongly agree" (5).

The authors framed the scales for the study for three variables, i.e., ADR (independent variable), JS (dependent variable), and EM (mediating variable). The available literature on alternative dispute resolution (Besaiso et al., 2016; Chong & Zin, 2012) worked as a guide to develop the scale for ADR. ADR was measured with six statements (α = 0.907). Subsequently, the scale for JS was developed

for which the study of Kamau and Gichuhi (2021) worked as a base. JS was calculated with five statements (α = 0.932). The reliability of independent and dependent variables is relatively high (Tavakol & Dennick, 2011). The scale for EM (mediating variable) was developed after the wordy modifications of a scale developed by Maslow (1943). This mediating variable was calculated with six statements (α = 0.894).

3.4 Control Variables

Three demographic variables, gender, income, and the organization's sector, organization's sector, were controlled to determine their effect on the study variables.

3.5 Common Method Bias

As a self-structured questionnaire was used for the primary survey, this form of data collection increases the chance of upholding common method bias. To overcome this bias, first, nameless respondents were maintained, and then "Harman's single factor test" analysis was executed. It found that the first component represented 45.72 % of the variance in the extraction sum of squared loadings and 24.58 % of the

Table 2. Descriptive Statistics

Variables	N statistics	Minimum statistic	Maximum statistic	Mean statistic	SD statistic	Skewness Statistic	Std. error
Alternative Dispute Resolution	289	2.00	5.00	3.412	0.685	0.674	0.143
Job Satisfaction	289	1.00	5.00	3.604	0.810	-0.026	0.143
Employee Motivation	289	1.17	5.00	3.941	0.823	-0.435	0.143

Notes: SD = Standard deviation.

variance in the rotation sums of squared loadings (Podsakoff et al., 2003). Hence, it confirms that there was no likelihood to face common method bias in the data.

4. Results

4.1 Descriptive Statistics

Data normality was checked to ensure the accuracy of the results. In the normality measurement, all descriptive statistics, including mean, standard deviation statistic, minimum statistic, maximum statistic, skewness statistic, and standard error, were computed for all three variables used in this study (Table 2). A rating scale for all variables was used ranging from 1 to 5, and the mean scores for ADR, JS, and EM were 3.41, 3.60, and 3.94, indicating the consent of respondents. Moreover, skewness statistics were calculated to ensure normality, which ranged from - 0.435 to + 0.674 and lay within the threshold range (-1 to +1) (Mishra et al*.,* 2019). Total descriptive statistical values confirm that ADR, JS, and EM data were normally distributed.

4.2 Reliability and Validity

As the authors have framed all of the statements by themselves, proper steps were followed to prove the reliability and validity of the constructs. Cronbach's alpha and composite reliability is an effective measure of understanding the reliability of all used variables. For this, Cronbach's alpha values, discriminant, and convergent validity were calculated. The composite reliability (CR) and Cronbach's alpha must be > 0.7 (Peterson & Kim, 2013). CR measures the accuracy of the elements taken to measure a variable. Both Cronbach's Alpha and CR values ranged from 0.906 to 0.932, above 0.7, proving the reliability of all three variables.

Validity was also tested after the reliability was confirmed. First, convergent validity testing was done to check the internal consistency among variables and whether the theoretically proven variables were co-related. Two indicators, average variance extracted (AVE) and maximum shared variance (MSV), were obtained to check this validity. Both AVE and MSV for each variable ranged between 0.593 to 0.731 and 0.350 to 0.483. The standard criteria to confirm the convergent validity were as follows: AVE should be > 0.50 (Hair et al., 2010), and AVE should be greater than MSV (Chan & Ldris, 2017; Kline, 2015). Both AVE and MSV were calculated, and it was found AVE was greater than MSV in each variable. Therefore, the variable's calculations confirmed the convergent validity.

Table 3. Convergent and discriminant validity

Variables	No. of items	Cronbach's alpha	Composite reliability	Average variance extracted	Maximum shared variance	1	2	3
Alternative Dispute Resolution	6	0.907	0.906	0.618	0.350	*0.786*	-	-
Job Satisfaction	5	0.932	0.932	0.731	0.483	0.546**	*0.855*	-
Employee Motivation	6	0.894	0.897	0.593	0.483	0.428**	0.632**	*0.770*

*Notes: **p ≤ 0.01; *p ≤ 0.05; √AVE values are in bold and italics of all three variables.*

Further, discriminant validity checks the variable's distinctiveness. The results of correlation were found to be significant in indicating the hypothesized intercorrelation among outcome variables and predictors. All variables were correlated with each other significantly, and the square root of the AVE is in all cases superior to the correlations among the constructs, which shows discriminant validity. In addition, O'Cass and Ngo (2007) indicate that discriminant validity is evident when the correlation between the two constructs is not higher than their respective AVE. Therefore, all the constructs support the discriminant validity of the scales used.

4.3 Measurement Model

Table 4 indicates the detailed results of exploratory factor analysis and confirmatory factor analysis. Varimax factor analysis was applied to the seventeen statements of different variables. Varimax factor analysis using principal components matrix gives good loading values without difficulty like statement merge. ADR, JS, and EM loadings ranged from 0.747 to 0.806, 0.789 to 0.810, and 0.701 to 0.804, respectively. So, the exploratory factor analysis indicated the factor strength.

Table 4. Measurement variables with EFA and CFA loadings values

Factors and measurement items	EFA loadings	CFA loadings
Alternative Dispute Resolution		
Conciliation provides an effective settlement as an ADR tool.	0.802	0.809
Arbitration works effectively as an ADR tool.	0.799	0.877
ADR settle dispute effectively within given time frame.	0.797	0.813
Mediation is effective tool of ADR system.	0.806	0.835
Adjudication/court settles disputes in an effective as well as satisfactory manner.		
Negotiation is the best way to settle dispute inside the organization.	0.765	0.693
	0.747	0.670
Job Satisfaction		
I am satisfied with my job because my conflict is heard well.	0.799	0.889
I am satisfied with dispute investigation at workplace	0.792	0.858
I am satisfied with my job because my conflict is also well redressed.	0.792	0.846
I am satisfied with organizational support in dispute settlement.	0.789	0.833
I am satisfied that employee's dispute does not affect our career opportunities.		
	0.810	0.849
Employee Motivation		
Support from co-workers during handling proceeding is helpful to get motivated.		
I feel motivated as my organization take care of my personal worries as well (sick leave, Health insurance of family)	0.789	0.820
I think that my job is the result/outcome of my own capability.	0.804	0.864
I feel free to talk to everyone.	0.771	0.737
I am motivated as my organization provides me job security (layoff, retrenchment).	0.748	0.708
I am ready to work all the time for my office hours.		
	0.732	0.816
	0.701	0.655

Notes: *All the loadings related to CFA were significant at 0.001 level; ADR stands for alternative dispute resolution; EFA stands for exploratory factor analysis and CFA stands for confirmatory factor analysis.*

4.3.1 Model fitness

A confirmatory factor analysis was executed to check the fitness of the statements' measurement model. Confirmatory factor analysis results included some model fit indices, such as minimum discrepancy per degree of freedom (CMIN/df) = 2.187; comparative fit index (CFI) = 0.960; incremental fit index (IFI) = 0.960; tucker-lewis index (TLI) = 0.953; and root mean square error of approximation (RMSEA) = 0.064. All indices were scrutinized using standard criteria accessible for highly evolved models as follows: CMIN/df < 3 (good enough up to 5); RMSEA ≤ 0.08; TLI ≥ 0.9; IFI ≥ 0.9; CFI ≥ 0.9 (Hair et al., 2010; Table 5). Model fit indices manifested a good fit and established the dimensionality of all three variables.

4.4 Regression Analysis

With the help of multiple regression analysis, proposed hypotheses have been verified, and all regression models ranging from 1 to 4 were found positive and significant in terms of F statistics (Table 6). First two regression model (Model 1 and Model 2) explained the direct effect of ADR on EM (β = 0.425***; $p \leq 0.001$) and JS (β = 0.544***; $p \leq 0.001$). Therefore, the result supports the H1 and H3. Further Model 3 represented the immediate effect of EM on JS (β = 0.629***; $p \leq 0.001$). So, the results promoted the H2. Model 4 represented the effect of ADR and EM collectively on JS (β = 0.339***; $p \leq 0.001$, β = 0.483***; $p \leq 0.001$).

Table 5. Confirmatory Factors Analysis

Indicators	Threshold range	Current values
CMIN/DF	Less than or equal to 3	2.187
CFI	Equal or greater than 0.90	0.960
IFI	Equal or greater than 0.90	0.960
TLI	Equal or greater than 0.90	0.953
RMSEA	Less than or equal to 0.08	0.064

Notes: All five indicators are meeting the threshold limit; result indication towards good fitness.

Table 6. Results of multiple regression analyses testing the proposed association among study variables

Independent variables	Employee Motivation		Job Satisfaction	
	Model 1	Model 2	Model 3	Model 4
Nature of Organization	-0.009	-0.028	-0.011	-0.023
Employment Status	-0.109*	-0.080	-0.021	-0.028
Alternative Dispute Resolution	0.425***	0.544***	-	0.339***
Employee Motivation	-	-	0.629***	0.483***
R^2	0.195	0.306	0.400	0.494
Adjusted R^2	0.187	0.298	0.394	0.487
F statistic	23.030***	41.817***	63.330***	69.253***

*Notes: ***$p \leq 0.001$; *$p \leq 0.05$*

Table 7. Total standardized direct and indirect effects of ADR on JS through mediator (EM)

ADR →EM→JS	β	SE	Boot LLCI	Boot ULCI
Total effect	0.648	0.058	0.533	0.764
Mediated direct effect	0.402	0.055	0.293	0.510
Indirect effect	0.246	0.036	0.178	0.321

Notes: Boot LLCI stands for bootstrapped accelerated lower limit confidence interval, and boot ULCI, for bootstrapped accelerated upper limit confidence interval.
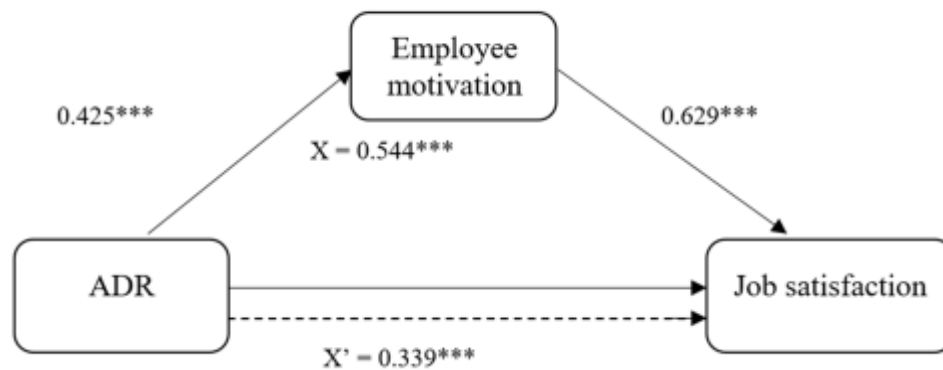
Notes: X *represents the total effects of alternative dispute resolution on job satisfaction;* **X'** *shows indirect effects of alternative dispute resolution on job satisfaction; ***p ≤ 0.001.*

Figure 1. Estimated mediation model

The results obtained using bootstrapping with 10,000 resamples at a 95 percent assurance interval, as Hayes (2013) recommended, did not contain zero in the indirect path. The indirect path between ADR and JS has verified the partial mediating role of EM (Table 7). Given the sequential indirect path (i.e., ADR EM JS), β values of mediated direct, indirect, and total effect were 0.4021, 0.2465, and 0.6486, where the confidence interval did not hold zero. It confirms the sequential Mediation of EM in the relationship between ADR and JS. Thus, H4 was also confirmed.

Figure 1 provides a clear overview of the mediation analysis.

5. Discussion and Conclusion

The study aims to detect ADR's effect on JS through EM's mediating effect. The present study evaluated the individual Mediation between ADR and JS to derive an improved understanding of the correlation. The study's initial results indicate that ADR has a direct, positive, and significant impact (0.425***) on EM, thus supporting H1. Similarly, ADR demonstrates a direct, positive, and significant effect (0.544***) on JS, validating H2. Furthermore, the positive and significant relationship between EM and JS (0.629***), well-established in existing literature, has been reconfirmed in the present study, and H3 has been validated. Employees are satisfied with an affordable ADR procedure to settle disputes and conflicts. The mediation model analysis explains that EM partially mediates between ADR and JS (Figure 1). These results indicate that the direct relation between ADR and JS is influenced by a mediating variable with a significant beta value (0.339***). Results

using the mediation model explained that EM, as the individual mediator, makes a beneficial impact on JS. If an organization offers employees a well-defined ADR, then they are more motivated, and this motivation changes the JS level of employees. Finally, results indicate that ADR directly and indirectly affects JS with a mediating role of EM.

In conclusion, the results of the study proved the partial mediation role of EM in the relationship between ADR and JS. The main aim of this study was to contribute some knowledge in the research area, which was deliberately tried by a literature review and questionnaire survey. Summing up, the results were achieved up to the mark as hypotheses were constructed, and all results were found significant. In the results of the present study, the mediating effect of EM between ADR and JS is positively and significantly derived.

5.1 Theoretical Implications of the Study

This study is built upon Herzberg's motivation-hygiene theory, which delves into the reasons behind job satisfaction and dissatisfaction, particularly how they relate to employee motivation. Herzberg's theory identifies two factors: motivational elements, which actively engage and encourage employees, and hygiene factors, which mitigate dissatisfaction. These hygiene factors, such as salary, working conditions, workplace relationships, and organizational policies, also often become the root of grievances, potentially leading to employee dissatisfaction and, if left unresolved, escalating into disputes. This pattern is evident in India's manufacturing and service sectors, where dissatisfaction due to factors like low pay, inadequate

supervision, unhealthy workplaces, and poor peer relationships has been a recurring issue, as documented in recent research (Shubayr et al., 2022; Ogunfowora et al., 2021; Pham et al., 2021). This study extends Herzberg's theory by highlighting the relationship between these disputable hygiene factors and employee dissatisfaction, adding a nuanced focus on how unresolved grievances can lead to disputes within organizations. This perspective enriches the existing theory by bringing the concept of disputable issues into the analysis of hygiene factors, which often serve as precursors to dissatisfaction and dispute.

Furthermore, Herzberg's motivational component is reexamined in this study by exploring how effective ADR mechanisms impact job satisfaction. The findings suggest that ADR practices such as Mediation, negotiation, arbitration, and conciliation not only resolve disputes but also play a motivational role by fostering a fair and supportive environment. When employees see their grievances addressed through structured, fair dispute resolution, their satisfaction and engagement increase. This introduces a novel contribution to Herzberg's theory, as ADR's dual role in preventing dissatisfaction and promoting satisfaction has not been previously integrated. By examining the interplay between ADR, job satisfaction, and employee motivation, this study makes a unique theoretical contribution that broadens Herzberg's theory, particularly within the context of dispute resolution in organizational settings. In terms of practical applications, this research provides valuable insights with economic and commercial benefits. Implementing effective ADR practices within organizations can significantly enhance productivity, reduce turnover, and save on recruitment and training costs while fostering a cohesive and positive team environment (Sadiq, 2022). A proactive approach to ADR helps create an appealing workplace culture, making organizations more attractive to high-caliber talent and promoting employee retention. Additionally, motivated employees who experience effective dispute management often provide better customer service, thus boosting customer satisfaction and loyalty. This study's findings can guide organizational strategies and policies by demonstrating the value of ADR as a long-term investment for growth and stability.

Moreover, this study offers valuable contributions to teaching by equipping students and future leaders with an understanding of ADR's impact on workplace dynamics and employee satisfaction. By incorporating these insights into curricula, educators can foster practical knowledge of

dispute management, which is crucial for effective leadership. Academically, this research addresses a gap by examining ADR's influence on employee motivation and job satisfaction through the framework of Herzberg's theory, enriching the body of knowledge and encouraging further exploration of ADR and dispute resolution across various organizational contexts. This study not only expands the theoretical understanding of HRM but also offers practical insights that can influence public policy and organizational practices, particularly within the fields of economic and organizational development.

5.2 Practical Implications of the Study

In terms of practical implications, the current study provides insight into the organization's HRM policies in the context of increasing employee satisfaction. The study covered various industries categorized under the manufacturing and service sectors. Therefore, all Indian enterprises operating as manufacturing and service organizations throughout their strategic management can benefit from the present study's findings. The first implication for the HR department is to adapt the ADR procedure. Employees always find it challenging to survive without any immediate solution to conflicts/disputes at the workplace (Omene, 2021). Organizations, including the HR department, also find it more challenging to satisfy the employees. The study suggests that some hygiene factors should be considered, which may increase or decrease the motivation level of employees. Similarly, some hygiene issues are related to conflicts/disputes in the organization. If the organizations take care of all the hygiene factors while implementing the ADR procedure, it would be beneficial for organizations overall and specifically for the HR department to overcome employee dissatisfaction and spare positive employee motivation. So, the organization should adopt a refined and adaptive ADR to resolve disputes. It would be appreciated if the HRM offered more than two alternative resolution procedures. This alternate choice would improve the trust level of employees in the HR department as well as in the organization. As the study revealed that EM improves JS, the HR department can bring change to both EM and JS by implementing a sound ADR. Employee's ethical behavior can be seen with the positive motivation at the workplace. Training and support should be provided to the top management and HRM to ensure the effectiveness of ADR procedures. The results of the study indicate that there are many benefits to HRM with the adaptation of ADR procedures by way of results into employee outcomes. Every organization should build some ADR procedures, and

the HR department should enforce these procedures, which leads to more employee satisfaction. Whenever employees seem confused and unsatisfied with the dispute resolution procedure described by the organization so, HRM can enhance the effectiveness of ADR through modifications and changes in resolution methods. Employees must be given detailed information by the HR department about the procedure followed to resolve the dispute. Any motivational programs can be conducted by the HR department at different intervals to bring change to employees (Chanana, 2021). Once motivational changes come, employees' perceptions will be changed to look toward organizational objectives (Delfino & van der Kolk, 2021).

Further, the HR department should pay attention to the awareness of enforced policies at the time of orientation and induction of newly joined employees. Employees should be aware of their rights and procedures adopted and HR department should conduct frequently the motivational program and check employee's satisfaction levels through the evaluation program Implementation of motivational programs among employees in the corporate sector has been found very effective to improve satisfaction among employees. Therefore, HRM should understand and enforce these mechanisms to improve motivation and JS.

6. Limitations and Future Research Directions

For every research study, it is impossible to cover all the boundaries over a particular topic. So, there were certain limitations in the current study. First, the data were collected from different respondents at a single point in time. In place of a cross-sectional study, another study type, such as a longitudinal study, can be conducted and executed to test the same relationship between ADR and JS. Second, data were collected from a limited population. The small sample size is another limitation of the study. Third, the data was collected from the manufacturing and service sectors broadly; a specific industry can be targeted for research study. Fourth, this study considers only one Mediation between the two variables. Similarly, uncovered mediating variables like employee engagement and commitment and moderating variables such as union instrumentality, employee voice, etc., to check the effect of ADR on JS. Lastly, this research was conducted only in the Indian corporate sector. To generalize the obtained implementation in an international context, the same study can be conducted outside India. The future researcher may develop a framework based on other motivation theories relevant to the variables.

References

Abuzaid, A., Al-Haraisa, Y., & Alateeq, M. (2022). Relationship between conflict management and employees' commitment: The mediating role of work motivations. *Corporate Governance and Organizational Behavior Review, 6(3), 163-172.*

Ademola, J., Ubala, C., & Abdullahi, I. (2023). Influence of School Administrators' Conflict Resolution Strategies on Teachers' Job Satisfaction. *Journal of Pedagogy and Education Science, 2*(2), 132-144.

Adnan, N., Bhatti, O. K., & Farooq, W. (2020). Relating ethical leadership with work engagement: How does workplace spirituality mediate? *Cogent Business & Managemen*t, *7*(1), 1739494

Agustina, G., & Febrian, F. (2021). Conflict Model on Work Motivation, *Dinasti International Journal of Management Science, 2*(3), 494-505.

Alma'rif, Y., Respati, H., & Nasir, M. (2022). Conflict, Stress, and Motivation Influence Employee Performance. *Cross Current International Journal of Economics, Management and Media Studies*, *4*(5), 154–160.

Ampofo, J. A., Mantey, I., & Aniah, E. (2021). Causes of organizational conflict in public institutions in Ghana: A Study in Tamale High Court. *International Journal of Applied Research in Social Sciences*, *3*(4), 77-91.

Anastasiou, S. (2020). The Significant Effect of Leadership and Conflict Management on Job Satisfaction. *Academic Journal of Interdisciplinary Studies, 9*(6), 9-17.

Aram, J., & Salipante, P. (1981). An Evaluation of Organizational Due Process in the Resolution of Employee/Employer Conflict. *Academy of Management Review*, *6*(2), 197-204.

Archana G M., & Manjunatha S (2023). A Study on Effect of Dispute Management with Special Reference to Employee Performance at Indigo Blues (A Unit of Gokaldas Exports Limited), Doddaballapura. *International Journal of Scientific Research in Engineering and Management, 7(*11). DOI:10.55041/ ijsrem26673

Aryawan, I. W., Agung, A. A. G., Sulindawati, N. L. G. E., & Werang, B. R. (2024). Exploring the Effect of Interpersonal Communication, Conflict Management, Asta Brata Leadership Style and Motivation on Job Satisfaction of Teachers. *Pegem Journal of Education and Instruction*, *14*(2), 331-339.

Babalola, M. T., Stouten, J., Euwema, M. C., & Ovadje, F. (2018). The relation between ethical leadership and workplace conflicts: The mediating role of employee resolution efficacy. *Journal of Management*, *44*(5), 2037-2063.

Badriyah, N., Sulaeman, M. M., Wibowo, S. N., & Anggapratama, R. (2024). The Role of Constructive Conflict Management in Fostering Team Collaboration and Innovation: A Perspective of Transformational Leadership. *Journal of Contemporary Administration and Management (ADMAN)*, *2*(1), 402-408.

Badubi, R. M. (2017). Theories of motivation and their application in organizations: A risk analysis. *International Journal of Innovation and Economic Development, 3*(3), 44-51.

Besaiso, H., Fenn, P., & Emsley, M. (2016). Alternative dispute resolution in Palestine: The myth and dilemma of construction mediation. *International Journal of Law in the Built Environment*, *8*(3), 269-286.

Bingham, L. (2004). Employment dispute resolution: The case for Mediation. *Conflict Resolution Quarterly*, *22*(1/2), 145–174.

Bleda, M., Querbes, A., & Healey, M. (2021). The influence of motivational factors on ongoing product design decisions. *Journal of Business Research*, *129*, 562-569.

Bulan, T. (2022). Effect of role conflict and ambiguity on job satisfaction mediated by emotional exhaustion. *Dialectics: Journal of Economics and Social Sciences, 7*(1), 73–86.

Carvalho, A., Riana, I., & Soares, A. (2020). Motivation on Job Satisfaction and Employee Performance. *International Research Journal of Management, IT and Social Sciences*, *7*(5), 13-23.

Chan, L.L., & Idris, N. (2017). Validity and reliability of the instrument using exploratory factor analysis and Cronbach's alpha. *International Journal of Academic Research in Business and Social Sciences, 7*(10), 400-410.

Chanana, N. (2021). Employee engagement practices during the COVID-19 lockdown. *Journal of Public Affairs*, *21*(4), 1–8.

Chong H. Y., & Zin, R. M. (2012). Selection of dispute resolution methods: factor analysis approach. *Engineering, Construction and Architectural Management, 19*(4), 428-443.

Colvin, A. J. (2003). Institutional pressures, human resource strategies, and the rise of nonunion dispute resolution procedures. *Industrial and Labor Relations Review*, *56*(3), 375–392.

Cvjetkovic, M. (2022). The influence of motivation and job satisfaction on employee performance. *Proceedings of Matica Srpska for Social Sciences, 183*, 443-457.

Delfino, G. F., & van der Kolk, B. (2021). Remote working, management control changes, and employee responses during the COVID-19 crisis. *Accounting, Auditing & Accountability Journal*, *34*(6), 1376-1387.

Fareed, K., & Jan, F. A. (2016). Cross-Cultural Validation Test of Herzberg's Two Factor Theory: An Analysis of Bank Officers Working in Khyber Pakhtunkhwa. *Journal of Managerial Sciences, 10*(2), 286–300.

Gaile, A., Baumane-V toli a, I., Kivipõld, K., & Stibe, A. (2022). Examining subjective career success of knowledge workers. *Review of Managerial Science*, *16*, 2136-2160.

Gawas, V. M. (2018). Analysis of the provision for the right to strike of workers under the Industrial Dispute Act 1947 and other provisions of laws. *International Journal of Law, 4*(5), 25–30.

Germann, M., & Sambanis, N. (2021). Political exclusion, lost autonomy, and escalating conflict over self-determination. *International Organization*, *75*(1), 178-203.

Gramberg, B., Teicher, J., Bamber, G., & Cooper, B. (2020). Employee Voice, Intention to Quit, and Conflict Resolution: Evidence from Australia. *Industrial and Labor Relations Review*, *73*(2), 393 - 410.

Hair, J. F., Jr, Black, W. C., Babin, B., & Anderson, R. E. (2010). Multivariate data analysis, Pearson Education, NJ: Prentice Hall.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable Mediation, moderation, and conditional process modeling. Available at: www.afhayes.com/public/process2012.pdf (Accessed 30 April 2024).

Hayes, A.F. (2013). Introduction to Mediation, Moderation, and Conditional Process Analysis a Regression-Based Approach, The Guilford Press: New York, NY, USA.

Hemsworth, D., Muterera, J., Khorakian, A., & Garcia-Rivera, B. R. (2024). Exploring the Theory of Employee Planned Behavior: Job Satisfaction as a Key to Organizational Performance. *Psychological Reports*, *0*(0), 1–32.

Herzberg, F., Mausner, B., & Snyderman, B. B. (2017). The Motivation to Work. Transaction Publishers, New Brunswick (USAUSA) and London (U.K.).

Ibanga, I., Abdullahi, I., & Zakariya'u, G. (2023). Principals' Perceived Effect of Conflict Resolution Procedures on Teachers' Job Satisfaction. *Journal of Pedagogy and Education Science*. *2*(2), 90-101.

Illankoon, I. M. C. S., Tam, V. W., Le, K. N., & Ranadewa, K. A. T. O. (2022). Causes of disputes, factors affecting dispute resolution, and effective alternative dispute resolution for the Sri Lankan construction industry. *International Journal of Construction Management*, *22*(2), 218-228.

Jwmaa, S., Younus, S., Othman, B., Rashad, M., Kanabi, I., Jamil, D., Mahmood, R., & Ismail, Z. (2022). Motivation: Does employee motivation have an influence on job satisfaction? *International Journal of Teaching, Learning and Education, 1(4), 36–48.*

Kamau, P. K., & Gichuhi, D. (2021). Influence of Devolved Dispute Resolution Mechanisms on Job Satisfaction of Health Care Workers in Nakuru County Kenya. *The International Journal of Business Management and Technology*, *5*(4), 98-110.

Kang, J. A. (2010). Ethical conflict and JS of public relations practitioners. *Public Relations Review, 36*(2), 152–156.

Kline, R.B. (2015). Principles and Practice of Structural Equation Modeling. Guilford Publications, New York, NY.

Lee, B., Lee, C., Choi, I., & Kim, J. (2022). Analyzing Determinants of Job Satisfaction Based on Two-Factor Theory. *Sustainability*, *14*(19), 12557.

Liubokhynets, L. (2022). STAFF MOTIVATION IS A WAY OF PREVENTING AND RESOLVING LABOR CONFLICTS AT THE ENTERPRISE. *Scientific Journal Herald of Khmelnitsky National University, 2(1), 201-211.*

London, M., & Howat, G. (1978). The relationship between employee commitment and conflict resolution behavior. *Journal of Vocational Behavior*, *13*(10), 1–14.

Ludwikowska, K. (2022). Employee-oriented human resource policy as a factor shaping the influence of servant leadership on job performance. *International Journal of Productivity and Performance Management*, *72*(8), 2335-2348.

Maiti, S., & Choi, J. H. (2021). Investigation and implementation of conflict management strategies to minimize conflicts in the construction industry. *International Journal of Construction Management*, *21*(4), 337-352.

Marnoto, M., Supardi, S., & Soegiarto, I. (2024). Impact of Job Satisfaction, Transformational Leadership, and Work-Life Balance on Employee Performance: A Study in Technology Companies in Indonesia. *International Journal of Business, Law, and Education*, *5*(1), 510-521.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50(*4), 370–396.

Mehmeti, A. (2020). Impact of motivation and job satisfaction on employee performance, 418–426. DOI: 10.47063/EBTSF.2020.0036.

Mishra, P., Pandey, C.M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia, 22*(1), 67–72.

Mollaei, R., Siadat, S. A., Hoveida, R., & Rizaneh, J. (2021). Designing a Model of Personal Branding for Employees with an Emphasis on Organizational Training: The Case of the Administrative Staff of the Judiciary of the Islamic Republic of Iran. *Iranian Journal of Management Studies*, *14*(4), 699-720.

Moon, B., & Browning, N. (2022). When publics collide: Developing the dual orientation conflict model in inter-public conflict. *Public Relations Review*, *48*(4), 102211.

Munir, F., Nielsen, K., Garde, A., Albertsen, K., & Carneiro, I. (2012). Mediating the effects of work-life conflict between transformational leadership and healthcare workers' job satisfaction and psychological well-being. *Journal of Nursing Management*, *20*(4), 512-21.

Myers, A. B. (2021). *Increasing Employee Motivation through Job Satisfaction and Empowerment* (Doctoral dissertation, Walden University).

Nurdiansyah, R., Mariam, S., Ameido, M. A., & Ramli, A. H. (2020). Work motivation, job satisfaction, and employee performance. *Business and Entrepreneurial Review*, *20*(2), 153-162.

Nurdiansyah, R., Mariam, S., Ameido, M., & Ramli, A. (2020). Work Motivation, Job Satisfaction, and Employee Performance. *Business and Entrepreneurial Review*, *20*(2), 153-162.

O'Cass, A.; Ngo, L. Market orientation versus innovative culture: Two routes to superior brand performance. *European Journal of Marketing*, *41*(7/8), 868–887.

Ogunfowora, B., Weinhardt, J. M., & Hwang, C. C. (2021). Abusive supervision differentiation and employee outcomes: The roles of envy, resentment, and insecure group attachment. *Journal of Management*, *47*(3), 623-653.

Okojie, V. (2009). Rewards policy and EM in the National Library of Nigeria (NLN). *Samaru Journal of Information Studies, 9*(2), 33–45.

Olannye, P., & Aliku, I. (2022). Enhancing employee performance through the application of dispute resolutions in the banking industry. *Journal of Global Social Sciences, 3*(12), 47-74.

Olson-Buchanan, J., & Boswell, W. (2002). The role of employee loyalty and formality in voicing discontent. *The Journal of Applied Psychology*, *87*(6), 1167–74.

Omene, G. R. (2021). Conflict management strategies as a prerequisite for effective organizational performance: An exploratory analysis. *International Journal of Business & Law Research, 9(4)*, 187–199.

Ooi, L. Q. R., Orban, C., Zhang, S., Nichols, T. E., Tan, T. W. K., Kong, R., ... & Alzheimer's Disease Neuroimaging Initiative. (2024). MRI economics: Balancing sample size and scan duration in brain-wide association studies. *bioRxiv*. DOI:10.1101/2024.02.16.580448

Ozturk, A., Karatepe, O. M., & Okumus, F. (2021). The effect of servant leadership on hotel employees' behavioral consequences: Work engagement versus job satisfaction. *International Journal of Hospitality Management*, *97*, 102994.

Panda, A., Jain, N. K., & Nambudiri, R. (2021). Work-family conflict, affective commitment, leadership, and job satisfaction: a moderated mediation analysis. *International Journal of Productivity and Performance Management, 71*(4), 1469-1489.

Pavlovic, M., Stojanovi -Viši , B., & Risti , M. (2021). The Relationship between Workplace Conflicts and Job Satisfaction in the Public Sector in Serbia. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies, 27*(1), 55-68.

Peterson, R.A. & Kim, Y. (2013). On the relationship between coefficient alpha and composite reliability. *Journal of Applied Psychology, 98*(1), 194–210.

Pham T, T. D., NGO, A. T., DUONG, N. T., & PHAM, V. K. (2021). The Influence of Organizational Culture on Employees' Satisfaction and Commitment in SMEs: A Case Study in Vietnam. *The Journal of Asian Finance, Economics and Business, 8*(5), 1031-1038.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.

Rahman, M., Rose, R., Som, H., Newaz, H., Candidate, P., & S. (2023). Assessing Job Satisfaction in the Bangladeshi Readymade Garment Industry: A Study of Shams Styling Wears Limited Using PLS-SEM Modeling. *International Journal of Management and Accounting, 5*(4), 53–65.

Riyanto, S., Endri, E., & Herlisha, N. (2021). Effect of work motivation and job satisfaction on employee performance: Mediating role of employee engagement. *Problems and Perspectives in Management*, *19*(3), 162-174.

Riyanto, S., Endri, E., & Herlisha, N. (2021). Effect of work motivation and job satisfaction on employee performance: Mediating role of employee engagement. *Problems and Perspectives in Management*, *19*(3), 162.

Sadiq, M. (2022). Policing in a pandemic: Is the perception of workload causing work-family conflict, job dissatisfaction, and job stress? *Journal of Public Affairs*, *22*(2), e2486.

Shubayr, N., Faraj, H., Hurbush, M., Khormi, M., Alyami, A., Majrashi, N., & Alomairy, N. (2022). Assessment of job satisfaction, lifestyle behaviors, and occupational burnout symptoms during the COVID-19 pandemic among radiologic technologists in Saudi Arabia. *Radiography*, *28*(4), 1087–1092.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*(1), 53-55.

Tietjen, M., & Myers, R. (1998). Motivation and job satisfaction. *Management Decision*, *36*(4), 226-231.

Tiwari, R., Gupta, V., Razeen, M., Aghin, M., Gourisaria, H., & Agarwal, S. (2023). The relationship between job satisfaction and work motivation in the IT industry. *International Journal for Research in Applied Science and Engineering Technology*, *11*(4), 2394–2402.

Wang, Q., Gan, K. P., Wei, H. Y., Sun, A. Q., Wang, Y. C., & Zhou, X. M. (2024). Public service motivation and public employees' turnover intention: the role of job satisfaction and career growth opportunity. *Personnel Review*, *53*(1), 99-118.

Waswas, D., & Abu-Darwish, M. (2018). Conflict Management Strategies and Their Relationships with Employees' Achievement Motivation at Al-Hussein Bin Talal University (AHU). *International Journal of Learning and Development*, *8*(1), 94–122.

Yadav, A., Pandita, D., & Singh, S. (2022). Work-life integration, job contentment, employee engagement and its impact on organizational effectiveness: a systematic literature review. *Industrial and Commercial Training*, *54*(3), 509-527.

Yang, Y. (2012). Studies of Transformational Leadership in the Consumer Service Workgroup: Cooperative Conflict Resolution and the Mediating Roles of Job Satisfaction and Change Commitment. *Psychological Reports*, *111*(2), 545–564.

Yang, Y. (2014). Transformational Leadership in the Consumer Service Workgroup: Competing Models of Job Satisfaction, Change Commitment, and Cooperative Conflict Resolution. *Psychological Reports*, *114*(1), 33–49.

Ye, Z., Liu, H., & Gu, J. (2019). Relationships between conflicts and employee perceived job performance. *International Journal of Conflict Management, 30*(5). DOI:10.1108/ijcma-01-2019-0010

Yolanda, A., & Purba, A. B. (2018). Effect of Work Conflict on the Employee Motivation. *KnE Social Sciences*, 642-652. DOI:10.18502/kss.v3i4.1973

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ISSN-0973-3167