IES MCRC
VALUE ADDITION THROUGH EDUCATION

ANVESHA

The Journal of Management

Vol. 17 No. 2 | July - December 2025 | ISSN 0974-5467

RESEARCH PAPERS

CASE STUDY

BOOK REVIEW

Editorial Advisory Board

About the Journal

Anvesha-Journal of Management is an academic forum for encouragement, compilation and dissemination of research on various aspects of management and business practices. It includes original empirical research as well as theoretical and conceptual works related to the field of management. It also publishes case studies, critical evaluation of existing business models and theories, and reviews of the latest books relevant to the scope of the Journal.

Anvesha is a quarterly refereed Journal. All papers go through blind review process by peers. Based on the reviewers' recommendations, highly competitive papers are considered for publication. The Journal is to provide a platform for discussion and debate, thus aiding towards development of new processes in Management Theory and Practice.

All correspondence may be addressed to:

The Chief Editor – **Anvesha**
IES's Management College & Research Centre
'Vishwakarma' M.D.Lotlikar Vidya Sankul,
791, S.K.Marg, Bandra Reclamation,
Bandra (W), Mumbai 400050
Email: anvesha@ies.edu

Anvesha is included in the ProQuest and EBSCO database. You can access the ProQuest and EBSCO website if your institution is a member.

ANVESHA

The Journal of Management

CONTENTS

EDITORIAL

Dear Readers,

Welcome to the seventeenth volume of *Anvesha – The Journal of Management*. We express our sincere gratitude to all contributors and reviewers. Their consistent support has helped us present meaningful management insights and enrich collective learning. We hope this issue engages you with ideas that are relevant, timely, and thought-provoking. Our editorial team remains committed to publishing high-quality work that adds value to the growing body of knowledge.

This volume brings together research from diverse domains. Each paper bridges the gap between theory and practice. The themes reflect the changing needs of society, the rise of digital tools, and the expanding role of technology in decision-making. They also highlight human concerns such as motivation, inclusion, sustainability, and ethics. We hope these papers offer new perspectives and inspire fresh conversations in academia and industry.

The first paper examines breast cancer prediction, a vital area as the disease remains a leading cause of mortality among women. Early detection is essential, especially since many cases occur without family history, and risks increase with age, genetics, dense tissue, obesity, and radiation exposure. The study builds a prediction model using the Wisconsin Breast Cancer Dataset and evaluates algorithms like SVM, KNN, Random Forests, Decision Tree, Logistic Regression, and XGBoost. It highlights how AI and future imaging innovations can strengthen diagnosis and expand access.

The second paper explores sustainable investing, noting that investors now seek ethical, environmental, and technological alignment alongside financial returns. ESG mutual funds are rising in India, while gold remains a reliable asset. The study shows how digital tools, AI analytics, and blockchain enhance transparency and portfolio management. Sustainability is becoming mainstream, pushing companies toward responsible practices. Future opportunities include integrating ESG parameters with predictive analytics, automated reporting, and digital advisory platforms that combine ESG scores with behavioural insights to guide new and young investors.

The third paper examines how Artificial Intelligence can enhance HR by analysing personality traits through the Johari Window model and personality tests. Using K-means clustering, factor analysis, and sentiment analysis, the study identifies patterns that support better classification and feedback interpretation. Findings show that open-window personality types perform more effectively. The paper suggests using AI to improve training, engagement, and personalised development plans. Future opportunities include AI-driven nudging systems and hybrid HR models that blend analytics with human empathy to ensure trust and fairness.

The fourth paper examines women social entrepreneurs in Rajasthan through case studies and qualitative interviews. These women show strong commitment to community welfare and sustainability but face barriers such as limited finance, minimal mentorship, social stereotypes, and work–life balance pressures. The study stresses the need for supportive ecosystems, including flexible funding, mentorship, and stronger networks. It also suggests creating digital incubators for rural women to offer training, financial tools, and market access. Future research can use larger samples and compare diverse regions.

The fifth paper examines monetary shenanigans and their impact on credit scoring. Financial manipulation distorts lending data and reduces model accuracy. By analysing real cases of accounting irregularities, the study shows how credit scoring has transformed borrower assessment and strengthened NPA management. Yet fraud can corrupt credit histories and payment records. The authors recommend stronger scoring models and AI-based anomaly detection. Future possibilities include real-time fraud alerts, integrated lender dashboards, and borrower-friendly credit education modules to improve financial awareness.

The next paper addresses the ethical challenges of AI automation in business processes. AI offers major benefitsefficiency, innovation, and productivity. But there are concerns. Job displacement, biased algorithms, and disruption of social contracts are real issues. The study analyses these concerns and proposes an ethical framework. It emphasizes responsible data use, transparency, and accountability.

The final case study explores Khaki Tours, a leading heritage-led social enterprise in Mumbai known for its 60+ immersive walks that transform history into civic engagement. As demand grows, Khaki must decide whether to remain Mumbai-centric or expand to new locations, adopt digital formats, strengthen its volunteer base, and scale responsibly while preserving its authentic storytelling mission.

AI automation affects workers, businesses, governments, and society. Organisations must take proactive steps. They should invest in retraining programs and develop clear AI governance policies. Policymakers should create regulations to monitor algorithmic decisions. Businesses should ensure that AI adoption aligns with fairness and human dignity. A valuable suggestion for future work is designing "AI impact audits" that companies can conduct annually. These audits can evaluate risks, biases, and the social impact of automation. They can help build trust and ensure sustainable innovation.

As we present this volume, our aspiration is to strengthen the latest management thoughts. We aim to enhance content quality, welcome broader audiences, and celebrate diverse knowledge. We thank the authors, reviewers, and advisors for their time, effort, and guidance. Their contributions make this issue possible. We trust you will find this compilation insightful and enriching.

We warmly invite your feedback. If you like the issue, please tell us. If you feel something can improve, let us know. Your suggestions help us grow. Together, let us continue building a vibrant community of learning and inquiry.

Happy Reading….

Dr. Ritu Sinha
Chief Editor

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Breast Cancer Predication Using Machine Learning

Abstract

The most prevalent diseases and primary cause of mortality among women worldwide is breast cancer (BC). In light of the rapid population growth and advancements in medical research, early detection of this illness has become increasingly critical. Numerous people diagnosed with the breast cancer don't have the family's background of the illness. however, women with relatives who have experienced the same condition face a greater risk. Moreover, elements like increasing age, hereditary factors, denser breast tissue, being overweight, and exposure to radiation increase the chances of developing the breast cancer. Tumors can be classified as malignant or benign, and physicians require a dependable diagnostic method to differentiate between the two. The mammography technique is employed to identify breast cancer. In this study, we propose a prediction model for breast cancer utilizing various machine learning algorithms to evaluate their accuracy and performance metrics. For simulation purposes, Wisconsin Breast Cancer Dataset (WDBC) has been employed and paper examines five supervised machine learning methods: Support Vector Machine, K-Nearest Neighbours, Random Forests, Decision Tree, Logistic Regression, and XGBoost.

Madhavi Sonawane[1] **Siddharth Hariharan**[2] **Amol Patole**[3]

Keywords: *Breast Cancer Prediction, Cancer Dataset, Machine Learning, Support Vector Machine, Random Forests, Decision Tree, K-nearest Neighbors, Logistic Regression, GBDT XGBoost.*

Introduction

Following lung cancer, breast cancer is the next most perilous type of cancer. The likelihood of developing breast cancer starts in the breast cells of the human body, and these altered cells can swiftly infiltrate surrounding tissues. The impact of illness may depend on factors such as cancer type, risk level, and patient age. Currently, one in five individuals globally will experience a cancer diagnosis in their lifetime. In the upcoming years, there will be an even greater increase in the quantity of new cancer cases with an expected increase of nearly 50% by 2040 compared to 2020. Additionally, the number of fatalities due to cancer has risen from 6.2 million in 2000 to 10 million in 2020. More than one out of six fatalities is attributed to cancer. Worldwide, breast cancer ranks as the most common type of cancer among women. This condition arises from the abnormal proliferation of certain cells in the breast tissue. Numerous methods have been developed to accurately diagnose breast cancer. Various types of categorical data require a categorical variable to represent different categories. Lumps can be categorized as benign or malignant tumors, both of which involve abnormal cell growth. If the disease is identified early, it can help safeguard individuals' lives and make it easier to prevent its progression.

Machine Learning is a branch of Artificial Intelligence is a scientific discipline concerned with the design and development of algorithms based on data. It is more feasible to properly assess the available data automatically to determine breast cancer survival rate and risk-specific factors. We classify ML algorithms as supervised and unsupervised. Unsupervised learning describes a subset of machine learning that searches data for patterns that haven't been noticed before with little to no human input and no predetermined classifications. Principal components and cluster analysis are two techniques utilized in unsupervised learning. A function that converts inputs into outputs, or input-output pairs, is called supervised learning. It is set of labeled training data that is analyzed to produce an inferred function that can be used to map new samples.

[1] Student, Department of Computer Engineering, Terna Engineering College, Nerul, Navi Mumbai, India, author can be contacted at madhavisonawane@ternaengg.ac.in
[2] Assistant Professor, Department of Computer Engineering, Terna Engineering College, Nerul, Navi Mumbai, India, author can be contacted at siddharthkalpagam@ternaengg.ac.in
[3] Alumni, Department of Computer Engineering, Terna Engineering College, Nerul, Navi Mumbai, India, author can be contacted at patoleamol2122 @ternaengg.ac.in

Literature Review

The relevant literature on the categorization of breast cancer data is reviewed in this section. Numerous academics have previously applied different machine learning algorithms to various breast cancer data repositories and proposed a number of strategies in recent years. Each model's performance varies depending on the algorithm and the dataset that researchers utilize. The medical field finds new uses for machine learning every day. Scientific research benefits from the development. A great deal of research is being done on this subject. We have found a number of research articles that are relevant to our investigation. The goal of this study is to develop a method for forecasting breast cancer. A few new approaches were presented to us during our research. The task at hand is not simple for us. We looked at earlier studies on breast cancer prediction in order to fully apply this study and understand this new word.

YEAR	AUTHOR NAME	RESEARCH PAPER NAME	ALGORITHM USED AND ACCURACY	ADVANTAGES AND DISADVANTAGES
April 2024	Sheng Zhou Chuijiao Hu Xiaofan Yan	Predicting breast cancer using several machine learning algorithms	DT= 92.10% RF= 97.36% KNN= 95.61% LR = 98.24% SVM = 97.3% A_LR= 99.1%	The AdaBoost-Logistic method has the best prediction accuracy in this article, while Decision Tree has the lowest accuracy, at 92.10%.
July 2023	Khandaker Mohammad Nitish Biswas Sarreha Tasmin Rikta	Breast cancer diagnosis based on machine learning and feature optimization	SVM = 94.65% LR = 92.95% KNN = 93.63% AB = 92.77 % NCC = 92.51 % VC = 98.77%	The analysis's conclusion indicates that the voting classifier has the best accuracy, at 98.77%. Conversely, the Nearest Cluster Classifier has the lowest accuracy rate, at 92.51%.
August 2022	Saniya Anklesaria Unnati Maheshwari Ria Lele Priyanka Verma	Predicting breast cancer with enhanced machine learning classifiers and data balancing methods	SVM =95.85% LR = 90.05% KNN = 95.8% DT = 92.7 % RF = 92.5 % ANN = 94 % NB = 93%	The Support Vector Machine Algorithm in this study achieved a 95.8% accuracy rate, followed by KNN with a 95.3% accuracy rate and logistic regression has the lowest accuracy, at 90.05%.
December 2020	Puja Gupta Shurti Garg	Modeling breast cancer with different machine learning classifier parameters	KNN = 95.8% LR = 95.8% DT = 95.8% RF = 97.2% SVM = 97.2% DL_ ANN = 98.24%	With a score of 98.24%, deep learning with ANN obtained the highest accuracy level. KNN and LR had the lowest accuracy, at 95.8%.
September 2020	Md. Milon Islam Md. Rezwanul Haque Hasib Iqbal	Predicting Breast Cancer: A comparative analysis employing machine learning methods	SVM = 97.14% LR = 94.89% KNN = 97.82% RF = 98.90 % ANN = 98.57 %	Logistic regression has the lowest accuracy in this study, at 94.89%, while artificial neural networks and support vector machines have the best accuracy, at 98.57% and 97.14%, respectively.

Experimental Environment

We have applied machine learning methods like SVM, K-NN,GBDT,XGBOOST, DT,RFs, and LR separately to determine if a cell is cancerous or not. For processing, we used a machine with an Intel Core i3 processor and 64 GB of RAM. The Python programming language's Scikit-learn open-source machine learning library is utilized. To achieve our objective, we use Jupiter Notebook, an open-source web application that enables the creation and sharing of reports with dynamic code, graphics, equations, and narration texts.

All of the tests on the machine learning methods included in this paper were conducted using the Scikitlearn module and the Python programming language. Scikit-learn, sometimes known as sklearn, is a free machine learning tool for the Python programming language. Among the classification, regression, and clustering algorithms it provides are support vector machines, random forests, gradient boosting, and k-means. Additionally, NumPy and SciPy, two Python scientific and numerical libraries, are compatible with it.

Proposed Methodology

The primary goal of our study is to pinpoint the most A predictive and efficient method for detecting breast cancer. To achieve this, we utilized various machine learning classifiers, including Support Vector Machine, Random Forests, Logistic Regression, Decision Tree , K-Nearest Neighbors, XGBoost and Gradient Boosting Classifier regarding breast cancer Wisconsin Diagnostic dataset. We then assessed the outcomes to determine which model yields the highest accuracy.

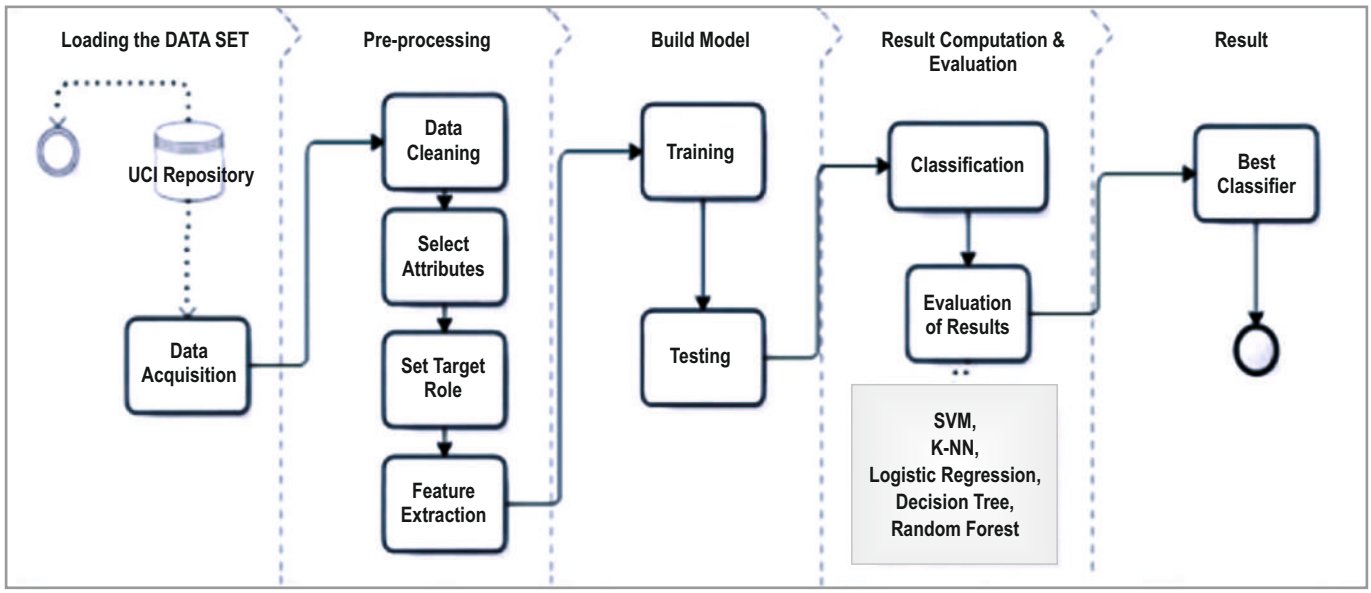


Fig: 1 Process of The Machine Learning Algorithms.

Our methodology starts with data collection and moves into a four-step pre-processing phase that includes feature extraction, attribute selection, data cleansing, and target role definition. Following processing, the data is used to create machine learning algorithms that can forecast breast cancer based on novel measurements. We give the model additional data for which we have labels in order to evaluate the algorithms' performance. Usually, the Train_test_split method is used to split the labeled data we have collected into two halves for this evaluation. 75 percent of the data also known as the training data or training set is used to build our machine learning model. The remaining 25% of the data is set aside for assessing the model's efficacy, which is referred as known the test data or test set. Following testing of the models, we compare the outcomes to establish the best accurate algorithm and the most predictive algorithm for breast cancer forecasting.

Algorithms used on Breast Cancer Predication

We implement machine learning algorithms to perform predictive analysis in our work. The following algorithms have been utilized in our project:

1. Support Vector Machine: A supervised machine learning approach for classification and regression applications is called a support vector machine. SVM

works well for classification jobs, but it may also be used for regression difficulties. Finding the best hyperplane in an N-dimensional space in order to efficiently divide data points into different categories in the feature space is the main goal of the algorithm known as SVM.

2. Random forests: This ensemble approach, which is frequently referred to as random choice forests, is used for regression, classification, and other purposes. It works by building a large number of decision trees in the training phase and using the outputs of each tree to get the median forecast for regression or the prevalent class (for classification). Decision trees are less likely to overfit to their training datasets when random decision forests are used.
3. K-Nearest Neighbors is an approach to classification based on the ideas of supervised learning. To determine how to label newly acquired data points, it consults a set of labeled data points. It considers the closest labeled points, also known as the nearest neighbors, when identifying the new point. These neighbors cast votes to decide the label.
4. Logistic Regression: Logistic regression predicts the probability that a given input belongs to a particular class. The model uses the logistic function (also called the sigmoid function) to output values between 0 and 1, which are interpreted as probabilities.

   The logistic function squashes the output of the linear equation into a value between 0 and 1.
5. XGBoost is a powerful machine learning algorithm that can help you understand your data and make better decisions. XGBoost is an implementation of gradient boosted decision trees. Researchers and data scientists worldwide utilize it to improve their artificial models for learning.
6. Decision Tree: In machine learning, supervised learning algorithms like decision trees are frequently used to model and forecast results based on input data. The structure resembles a tree, with each internal node testing a property, each branch representing an attribute value, and each leaf node representing the ultimate choice or forecast. The decision tree algorithm is classified as a supervised learning algorithm. Both regression and classification issues can be resolved with them.

Data Set Description

The research we are conducting makes use of the University of Wisconsin Hospitals Madison Breast Cancer Database's Breast Cancer Wisconsin Diagnostic dataset. The 569 people instances (Benign: 357, A malignant: 212) in the breast cancer samples from the Wisconsin Diagnostic dataset have been separated into two categories (62.74% benign and 37.26% malignant) and 32 integer-valued attributes (-Id -A diagnosis -the radius -The texture -The area -The perimeter -The smoothness -The compactness -Concave shape -The term concave points) are included. -Fractal dimension and symmetry, among other things).

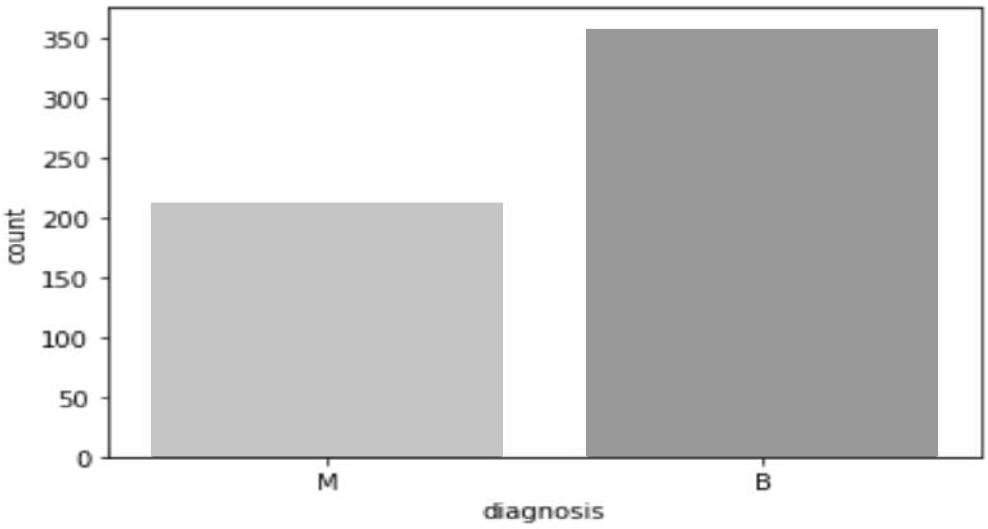


Fig 2: WDBC Diagnosis Dataset

Data Pre-processing

The goal of data pre-processing is to maximize the dataset's potential. The accuracy of the results may be lowered by the dataset's sound, absence of values or information, and imbalanced data. Therefore, before running the machine learning model, we need to remove these undesirable items from the dataset. In this data collection, malignant and benign are represented by diagnosis columns M and B. Numerical values 0 and 1 are created from these string data, where 0 denotes malignancy and 1 denotes benignity. Following that, Max, Min To guarantee that every feature has the same scale, normalization is done, and data standardization guarantees that every feature has the same impact on the distance measure. Following pre-processing, the dataset has the following unique properties.

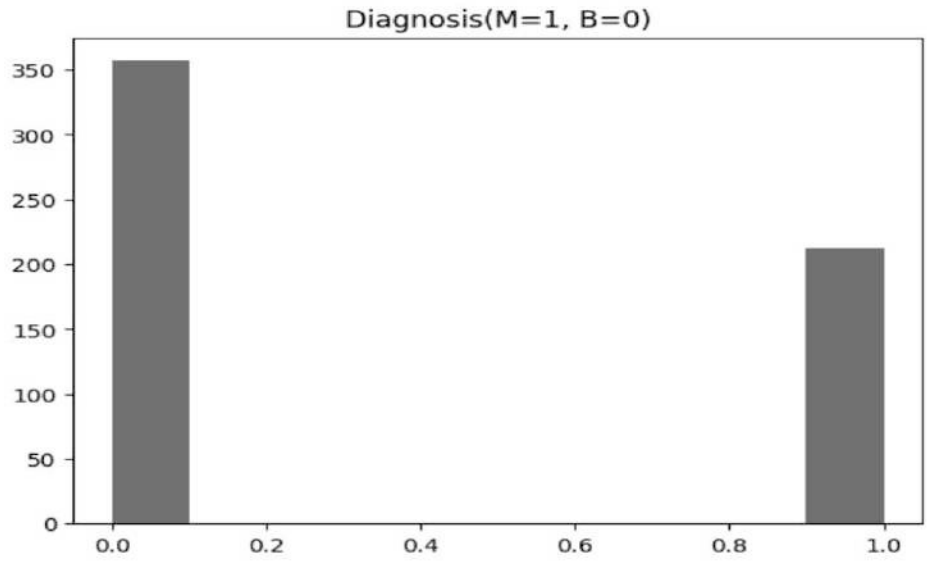


Fig 2: Diagnosis (M=1, B=0)

Data Cleaning

To resolve conflicts in the data, find or remove outliers, and fill in missing numbers, data preparation is used. Since the sample code number has no bearing on the course of the disease, it has been reduced in the dataset. The dataset encounters 19 missing trait values. The missing characteristics within that category are replaced by the mean. In order to guarantee that the data is distributed appropriately, random selection is also done to the dataset.

For this case study, a number of libraries and methods were used in conjunction with the Python programming language to carry out the data cleaning procedure. Pandas, Python, SciPy, NumPy and Scikit-learn were some of the libraries that were utilized. Data was read, cleaned, and altered using the library Pandas. It is helpful in handling outliers, missing values, and other issues.

The mean, median, mode, and standard deviation of the data were calculated using the NumPy module. SciPy, which and Scikit-learn are approved for usage in statistical analysis and machine learning. Regression, clustering, and other kinds of analysis are also carried out with it. Following that, we loaded the dataset and identified every variable. how many variables there are and what kind of data each variable contains. Additionally, we attempt to handle outliers, deal with inaccurate data, and remove any duplicate data in this part.

Table 1: Dataset Variable and Data Type

id	Non-Null Count	Dtype
diagnosis	569 non-null	int64
radius_mean	569 non-null	float64
texture_mean	569 non-null	float64
perimeter_mean	569 non-null	float64
area_mean	569 non-null	float64
smoothness_mean	569 non-null	float64
compactness_mean	569 non-null	float64
concavity_mean	569 non-null	float64
concave points_mean	569 non-null	float64
symmetry_mean	569 non-null	float64
fractal_dimension_mean	569 non-null	float64
texture_worst	569 non-null	float64
area_worst	569 non-null	float64
smoothness_worst	569 non-null	float64
compactness_worst	569 non-null	float64
concavity_worst	569 non-null	float64
concave points_worst	569 non-null	float64
symmetry_worst	569 non-null	float64
fractal_dimension_worst	569 non-null	float64

Feature Selection

The process of identifying and selecting the most pertinent clinical and pathological features (such as size of tumor, level, and hormonal receptor status) from a larger set of available data to use in a machine learning model is known as feature selection in the context of machine learning for breast cancer prediction. The goal is to increase prediction accuracy by concentrating on the most important factors for cancer diagnosis and prognosis while lowering model complexity by eliminating redundant or irrelevant information. The following phase involves selecting features using correlations. As we can see, univariate features are chosen based on the correlation of variables, followed by attribute classification and recursive feature removal with cross-validation.

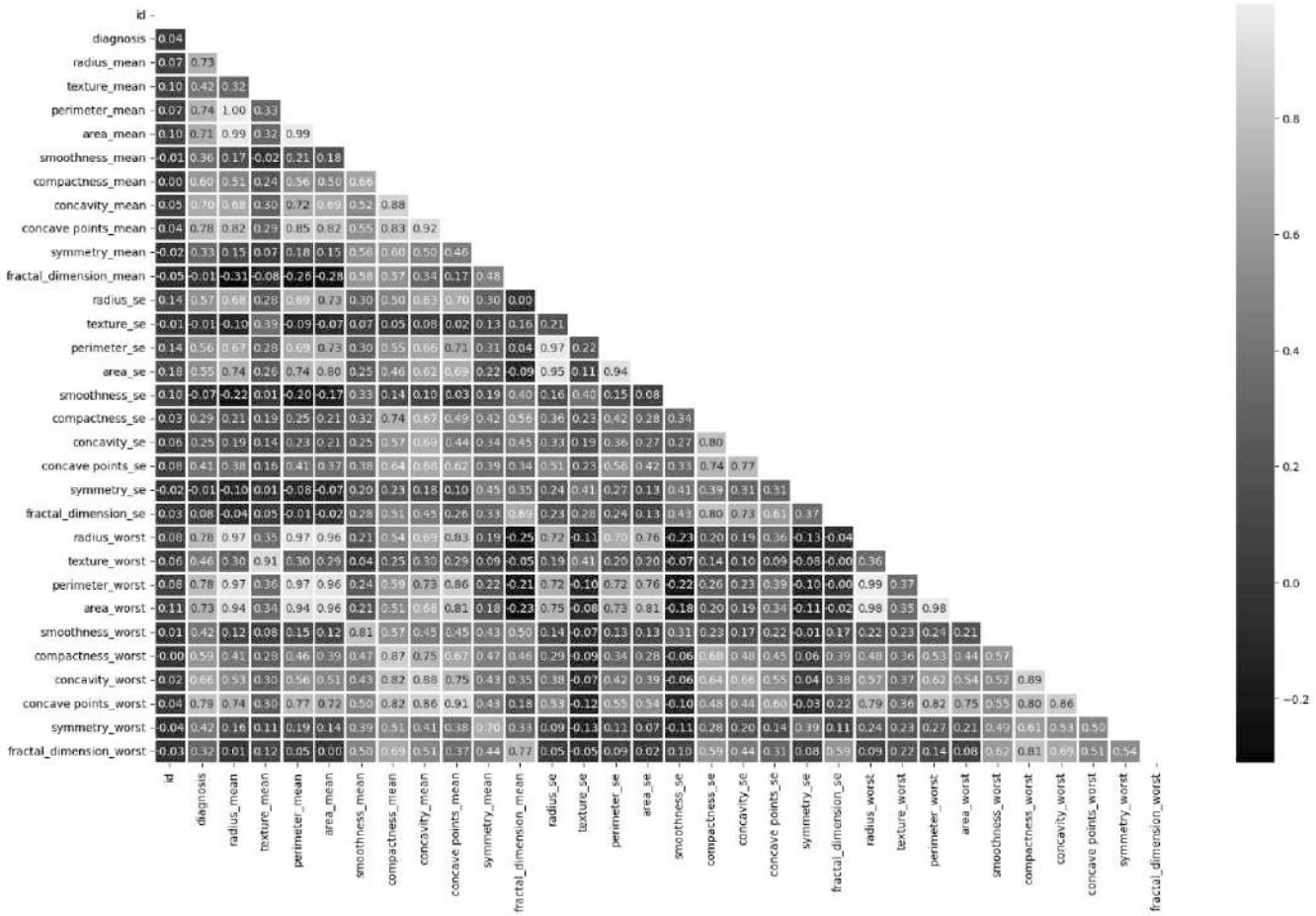


Fig 3: Numerical Correlation of Variable

Model Building

In machine learning, we are essentially trying to develop a predictive model on test data. Then, we use the training data to fit the model and the test data to test it. The models created must predict the unknown outcomes, called the test set. As you pointed out, the data set is split into a training set and a test set to verify the precision for training and testing. The split ratio depends entirely on you and the task you are facing It is not necessary for 70% of the data to be used for testing and the remaining 70% for training. The task at hand and the data collection being used determine this completely. As an instance, a fundamental data set like that of Reuters. Consequently, the accuracy will differ from training on 90% or more of the data if we train it on 50% of it and test it on the remaining 50%.

This is mainly because in machine learning, the larger the data set for training, the better. You can refer to this document, which shows the accuracy values depending on the size of the data set. It now depends. on you, the accuracy or precision you need to achieve depending on this task.

Results and Discussion

Despite the application of machine learning algorithms to the Wisconsin Diagnostic dataset for breast cancer, we utilized performance metrics such as Confusion Matrix, Accuracy, Precision, Sensitivity, F1 Score, and AUC to assess and compare the models, aiming to determine the most effective algorithm for breast cancer prediction. The Confusion Matrix serves as a tool to evaluate The way a categorization performs task when the outcomes can belong to two or more classes. It consists of a table with two axes: “Actual” and “Predicted,” which further includes “True Positives (TP),” “True Negatives (TN),” “False Positives (FP),” and “False Negatives (FN).” Accuracy is the most frequently used performance metric for classification algorithms and is calculated as the proportion of accurate forecasts to all predictions. Precision, often used in document retrieval, can be described as the quantity of pertinent documents our ML

model returned. The number of positive cases that your machine learning model detects is known as sensitivity. The F1 score, which is formally expressed as the weighted average of both precision and sensitivity, gives the harmonic mean of both variables.

Here are some of the most common classification metrics that could calculated from the data contained in a confusion matrix.

Accuracy - the percentage of total variables correctly classified. Using the formula Accuracy = (TP + TN) / (TP + TN + FP + FN)

False Positive Rate - how often the model predicts a positive for a value that is actually negative. Use the formula False Positive Rate = FP / (FP + TN)

Accuracy - the percentage of true positive cases compared to false positives. Using the formula Precision = TP / (TP + FP)

Recall - the percentage of true positive cases that were predicted as positive, compared to those classified as false negatives. Using the formula Recall = TP / (TP + FN)

Logarithmic loss - a measure of the total number of errors made by a model. The closer the model is to be zero, the more accurate it makes predictions in the classifications.

Area under the curve - a method of visualizing true and false positive rates in relation to each other.

Here, I have been putted model an evaluation results The evaluation of each of the models was performed by testing their performance on unseen data. Metrics such as accuracy, precision, recall, F1 score and support by step wise.

Table 2: Logistic Regression

	precision (%)	**recall (%)**	**fl-score (%)**	**support**
B	0.96	0.99	0.97	67
M	0.98	0.94	0.96	47
macro avg	0.97	0.96	0.96	114
weighted avg	0.97	0.96	0.96	114

Table 3: KKN

	precision (%)	**recall (%)**	**fl-score (%)**	**support**
B	0.94	0.99	0.96	67
M	0.98	0.91	0.95	47
macro avg	0.96	0.95	0.95	114
weighted avg	0.96	0.96	0.96	114

Table 4: SVM

	precision (%)	**recall (%)**	**fl-score (%)**	**support**
B	0.97	1.00	0.99	67
M	1.00	0.96	0.98	47
macro avg	0.99	0.98	0.98	114
weighted avg	0.98	0.98	0.98	114

Table 5: DT

	precision (%)	recall (%)	fl-score (%)	support
B	0.99	0.99	0.99	67
M	0.98	0.98	0.98	47
macro avg	0.98	0.98	0.98	114
weighted avg	0.98	0.98	0.98	114

Table 6: Random Forest

	precision (%)	recall (%)	fl-score (%)	support
B	0.99	0.99	0.99	67
M	0.98	0.98	0.98	47
macro avg	0.98	0.98	0.98	114
weighted avg	0.98	0.98	0.98	114

Table 7: XGBoost

	precision (%)	recall (%)	fl-score (%)	support
B	0.96	0.97	0.96	67
M	0.96	0.94	0.95	47
macro avg	0.96	0.95	0.95	114
weighted avg	0.96	0.96	0.95	114

Table 8: GBDT

	precision (%)	recall (%)	fl-score (%)	support
B	0.99	0.97	0.97	67
M	0.98	0.96	0.96	47
macro avg	0.96	0.96	0.96	114
weighted avg	0.96	0.96	0.96	114

Table 9: Accuracy of all Model

Model	Score
SVM	**98.80**
Random Forest Classifier	98.25
XgBoost	97.37
Logistic Regression	96.49
Gradient Boosting Classifier	96.49
KNN	95.61
Decision Tree Classifier	95.61

ROC Curves

The ROC curves for each machine learning algorithm have been presented. The ROC curve serves as a crucial indicator of the classifier's performance. Fits the model to the training data (X_train, y_train). Predicts on the test data (X_test) to get y_pred. Calculates the false positive rate (fpr1), true positive rate (tpr1), and thresholds using metrics.roc_curve. These values are needed to plot the ROC curve. Calculates the Area Under the Curve (AUC) using metrics.roc_auc_score, which is a measure of the model's performance (higher AUC is generally better). Plots the ROC curve using plt.plot, labeling it with the model's label and AUC score. Plot a reference line and set plot properties. plt.plot([0, 1], [0, 1],'r--'): Plots a dashed red line representing a random classifier (for comparison). plt.xlim, plt.ylim: Sets the limits of the x and y axes. plt.xlabel, plt.ylabel: Adds labels to the axes. plt.title: Sets the title of the plot. plt.legend: Displays a legend showing the labels of each ROC curve. plt.savefig: Saves the plot as a JPEG image file. plt.show: Shows the plot.

The area under the ROC curve was evaluate. A higher AUC denotes better classifier performance. With a ROC score of 98%, the support vector machine had the best score by 0.98% while the decision tree and XGBoost had the lowest at 0.95%.

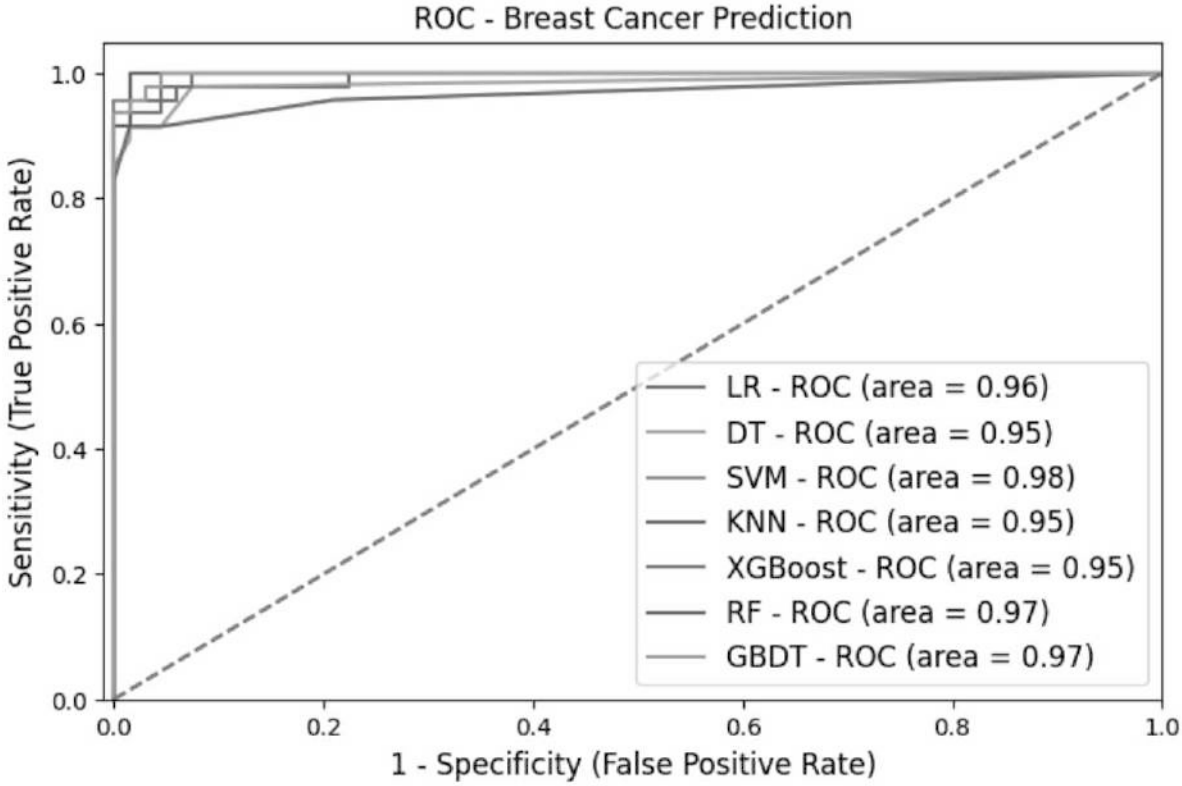


Fig 4: ROC Breast Cancer Predication

Performance Metric

In machine learning, a performance metric plays a very important role in determining how well our machine learning model performs on a dataset. Import necessary libraries:

sklearn.metrics: Provides functions for evaluating model performance (e.g., accuracy, ROC curve). numpy: Used for numerical operations, especially with arrays. And matplotlib.pyplot: Used for creating visualizations, in this case, a bar chart.

Define a list of models: models is a list of dictionaries. Each dictionary contains: label: A short label for the model (e.g., 'LR' for Logistic Regression). model: The actual trained model object (e.g., log_reg, which was trained earlier). After that Initialize lists: means_roc: Will store the ROC AUC scores for each model. means_accuracy: Stores the previously calculated accuracy scores for each model. Iterate through models: The code loops through each model in the models list. And calculate ROC AUC: metrics.roc_curve: Calculates the false positive rate (fpr), true positive rate (tpr), and

thresholds needed for the ROC curve. metrics.roc_auc_score: Calculates the area under the ROC curve (AUC), a measure of the model's ability to distinguish between classes. Store and print results: The calculated ROC AUC is stored in means_roc, and both means_accuracy and means_roc are printed. Prepare data: The accuracy and ROC AUC values are converted to tuples for plotting.

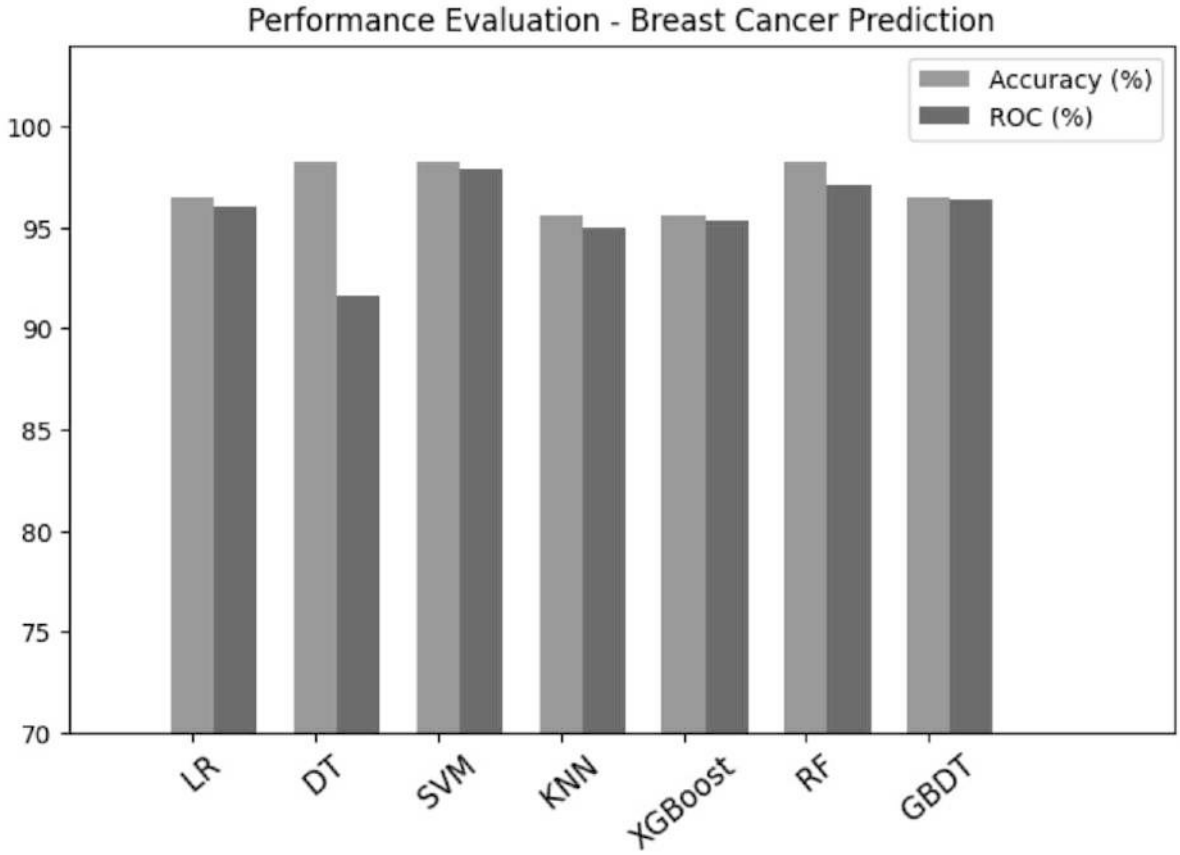


Fig 5: Performance Evaluation – Breast Cancer Predication

Conclusion

Breast cancer predictions are very important in the Medicare and biomedical fields. In this context, we focused on creating a classifier that aims to predict the most serious cancer known as breast cancer. Breast cancer is an extremely dangerous disease that causes many deaths among many women around the world. Thus, early detection of this cancer can save many precious lives. In our paper, it discovers that Support vector machine the best highest accuracy value of 98.80 which is recommended to be is advised to be used as an integrated algorithm for medical applications, which would enable physicians or medical professionals diagnose breast cancer early.

The fact that all of the results are exclusive to the WBCD database should be acknowledged as a limitation of our work. As a result, further research utilizing the same algorithms and techniques on different data sets must be addressed. We intend to use our algorithms and other machine learning algorithms with new parameters to larger datasets with more illness classifications in order to achieve higher accuracy and to validate the results achieved through this database.

Acknowledgement

This paper builds upon the research work presented at IES MCRC's IRC-2025, incorporating further analysis, expanded discussions, and deeper insights.

References

A Comparative Analysis of Machine Learning in Breast Cancer Prediction by Md. Milon Islam and Md. Rezwanul Haque: September 2020 SN Computer Science 1(5):290 https://DOI:10.1007/s42979-020-0030

Machine learning classification for breast cancer prediction Khaled Mohamad Almustafa, Alan La Moglia, et al.: https://doi.org/10.1016/j.ibmed.2024.100193

Mugume Isaac, Odongo Steven Eyobu, Tumusiime Andrew Gahwera, et al. (03 May 2024)A Study of Machine Learning Techniques for Forecasting Short-Term Rainfall Totals Using Weather Data from Uganda's Lake Victoria Basin DOI: 10.1109/ACCESS.2024.3396695

Chirayou Bista, Asreetha M, Salahuddin Slimanzay, et al. Machine Learning Algorithms for Breast Cancer Prediction System (April 2004) DOI: 10.1109/IEEECONF61558.2024.10585589

Saniya Anklesaria, Unnati Maheswari and Ria Lele et al. Breast Cancer Prediction using Optimized Machine Learning Classifiers and Data Balancing Techniques (August 2022) DOI: 10.1109/ICCUBEA54992.2022.10010783

Umesh Dutta ,Simran Kaushik et al. A Comparative Analysis of Machine Learning Techniques for Breast Cancer Prediction(January 2024) DOI: 10.1109/IDCIoT59759.2024.10468002

Nadh, Kamal., & Saraswathi, S. (2023) 'Using Logistic Regression vs The Support Vector Machine Algorithm for Stroke Prediction', Journal of Survey in Fisheries Sciences, 10(1S), pp. 2675 – 2682. https://doi.org/10.17762/sfs.v10i1S.497

Nurlaily, Diana., et al. (2022) 'Classification of Hepatitis Patients Using Logistic Regression and Support Vector Machine Methods', Jurnal Pendidikan Matematika (Kudus), 5(2), pp. 237 – 254. http://dx.doi.org/10.21043/jpmk.v5i2.17052

Allo, Caecilia B. G., et al. (2023) 'Perbandingan Metode Klasifikasi Kegagalan Simulasi Model Iklim', Koloni: Jurnal MultidisplinIlmu, 2(1), pp. 242 – 249. https://doi.org/10.31004/koloni.v2i1.438

M Raihan and Nasif Alvi et al. Breast Cancer Risk Prediction using XGBoost and Random Forest Algorithm (October 2020) Conference:2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT) At: Kharagpur, India, India DOI:10.1109/ICCCNT49239.2020.9225451

Md. Rafiqal Islam, Md. Shahidul Islam and Salkat Majumder et al. (14 August 2024) Breast Cancer Prediction: A Fusion of Genetic Algorithm, Chemical Reaction Optimization, and Machine Learning Techniques. https://doi.org/10.1155/2024/7221343

Avantika Mahadik, Prashant Sharma and Vaibhav Narawade et al. Breast Cancer Prediction with Gradient Boost and XGBoost February 2024 DOI:10.1007/978-981-99-9704-6_3

"Machine learning-based diagnosis of breast cancer utilizing feature optimization technique" Nitish Biswas, Sarreha Tasmin Rikta, Samrat Kumar Dey et. al: (2023) https://doi.org/10.1016/j.cmpbup.2023.100098

Satybrata Patro (Department of CSE, GIET University, Gunupur, India), V. Sailaja and B. Vasantha Lakshi et al.: (January 2023) DOI: 10.1109/AISC56616.2023.10085251

UCI Machine Learning (2023) Breast Cancer Wisconsin (Prognostic) Data Set. Available at https://archive.ics.uci.edu/ml/datasets/Breast+Cancer+Wisconsin+%28Prognostic%29

World Health Organization (2023) Cancer. Available at https://www.who.int/health-topics/canc

Puja Gupta and Shurti et al: Grag Breast Cancer Prediction using varying Parameters of Machine Learning Models (2020), https://doi.org/10.1016/j.procs.2020.04.064

Sheng Zhou, Chuijiao, and HuXiaofan Yan et al:. Breast Cancer Prediction Based on Multiple Machine Learning Algorithms (2024)

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Sustainability Meets Stability: ESG Mutual Funds and Gold in a Tech-Driven Landscape

Abstract

As investors increasingly focus on incorporating financial returns with ethical, environmental, and technological considerations, sustainable investing is surfacing as a key theme in India's financial landscape. As this paper follows, to understand the growing traction of Environmental, Social, and Governance (ESG) mutual funds and the enduring appeal of gold as a stable asset in Indian portfolios, integrating digital tools and advanced management practices can help investors and fund managers optimize portfolio strategies in terms of transparency, efficiency, and informed decision-making.The study points out how digital technologies, such as AI-driven analytics and blockchain, improve ESG compliance monitoring, increase accuracy in disclosure, and create investor trust. Further, modern portfolio management practices are discussed with a focus on the symbiosis between sustainable investments and traditional assets like gold for balancing risk and reward.As India moves towards 2025, sustainability principles could be combined with leading-edge digital innovations and management strategies to empower investors to build resilient and responsible portfolios. The two goals of financial growth and ethical wealth creation get supported, leading to a future-ready investment ecosystem.

Namrata Kaur Uppal[1] **Dr. Satvinder Singh Bedi**[2]

Keywords: *Sustainable Investing, ESG Mutual Funds, Digital Tools, Portfolio Management, Indian Markets.*

Introduction

The Indian investment ecosystem is being shaped in a radical way with increasing sensitivity to sustainability and embracing the latest technologies. There is greater focus on ESG factors from investors as part of decision-making, indicative of the growing inclination towards responsible investing. At the same time, traditional instruments such as gold remain essential parts of portfolios, particularly in volatile markets. This article explores the complementarity of ESG mutual funds and gold, looking into how portfolio managers can leverage technology advancements and sophisticated portfolio management methods to improve returns.

Rise of ESG Investing in India

Environmental, Social, and Governance (ESG) investing has gained significant traction globally, and India is no exception. The assets under management (AUM) in ESG-focused mutual funds in India have seen a substantial increase, growing 4.7 times between November 2019 and November 2021, with the cumulative AUM crossing ₹12,320 crore among 10 funds.

This surge indicates a growing investor preference for companies that adhere to sustainable and ethical practices. Several factors contribute to this trend. The COVID-19 pandemic has heightened awareness about the interconnectedness of global systems and the importance of sustainable practices. Investors are increasingly recognizing that companies with strong ESG credentials are better positioned to manage risks and capitalize on opportunities in a rapidly changing world.

[1] PhD Scholar, SGPC's Guru Nanak Institute of Management Studies, Matunga, namrata.k.uppal@gmail.com
[2] Director, SGPC's Guru Nanak Institute of Management Studies, Matunga, satvinder.bedi@gnims.com

Current ESG (Environmental, Social, and Governance) mutual funds available in India:

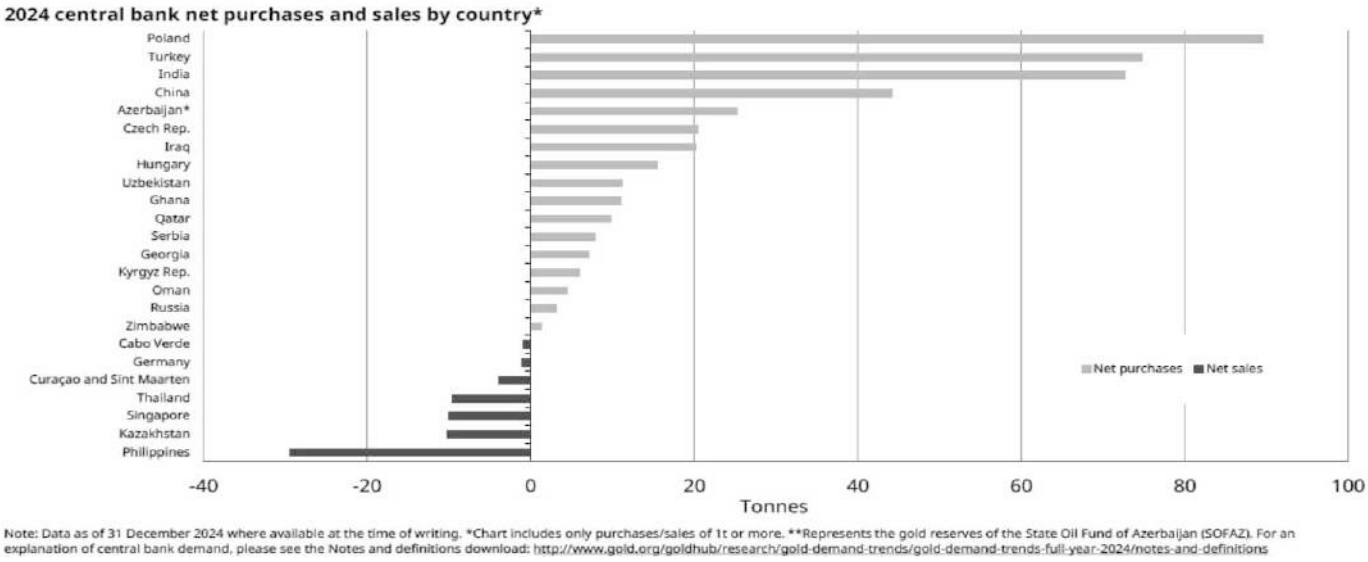
Fund Name	Launch Date	Assets Under Management (AUM)	Avg. Expense Ratio
SBI Magnum Equity ESG Fund	January 1991	₹4,411.66 Cr	1.3%
Quantum India ESG Equity Fund	July 2019	₹89 Cr	0.74%
Axis ESG Equity Fund	February 2020	₹1,496.55 Cr	1.32%
ICICI Prudential ESG Fund	October 2020	₹1,216.54 Cr	1.02%
Kotak ESG Opportunities Fund	December 2020	₹1,100.46 Cr	0.83%
Aditya Birla Sun Life ESG Fund	December 2020	₹800.50 Cr	1.4%
Quant ESG Equity Fund	November 2020	₹298 Cr	0.86%
Invesco India ESG Equity Fund	March 2021	₹507 Cr	0.97%
Mirae Asset Nifty 100 ESG Sector Leaders ETF	November 2020	₹119 Cr	0.05%

The expense ratio in Indian mutual funds affects returns by covering management costs, with a lower ratio ensuring more money stays invested and compounds for higher potential gains.

Source: Association of Mutual Funds of India

Enduring Relevance of Gold

Gold has long been considered a safe-haven asset, particularly during periods of economic uncertainty and market volatility. Its unique properties, such as intrinsic value, liquidity, and lack of credit risk, make it an attractive component of investment portfolios.



Note: Data as of 31 December 2024 where available at the time of writing. *Chart includes only purchases/sales of 1t or more. **Represents the gold reserves of the State Oil Fund of Azerbaijan (SOFAZ). For an explanation of central bank demand, please see the Notes and definitions download: http://www.gold.org/goldhub/research/gold-demand-trends/gold-demand-trends-full-year-2024/notes-and-definitions

Source: Metals Focus, World Gold Council

According to RBI statistics and industry estimates, 8.4 metric tonnes of gold were added during November alone, which is the 11th month running of purchases of gold. On an average, the RBI has been buying 6.6 metric tonnes each month.

In 2024, the RBI has already contributed 72.6 metric tonnes to its reserves, far exceeding the 16 metric tonnes in 2023 and the 33 metric tonnes in 2022. With these contributions, gold currently represents 10.2% of India's overall foreign exchange reserves, an increase from 7.8% in 2023.

Role of Digital Technologies in Sustainable Investing

Digital technologies are transforming the investment landscape, offering tools that enhance transparency, efficiency, and decision-making. In the context of ESG investing, technologies such as artificial intelligence (AI) and blockchain play pivotal roles. India's Union Budget 2025 underscores a strong commitment to sustainability, digital transformation, and financial innovation, fostering a conducive environment for ESG investing and advanced portfolio management. The budget invests heavy sums in renewable power and clean technology, supporting investment opportunities for ESG mutual funds. One of the major initiatives is an investment of ₹20,000 crore in Small Modular Reactors (SMRs) and electric vehicle (EV) battery manufacturing, supporting India's drive towards clean power and green mobility. Understanding the potential of fintech to bring about financial inclusion, the government has enacted policies that facilitate research and development, ease compliance, and digital banking.

The government aims at enhancing transparency, efficiency, and accessibility in financial markets through these steps. The budget promotes AI-powered financial services by providing higher funding for the India AI Mission and setting up a dedicated AI Centre of Excellence. A Deep Tech Fund has also been established to support ESG analytics and data reporting, further strengthening the integration of ESG considerations in investment strategies.A new ₹10,000 crore Fund of Funds has been introduced to finance startups, especially in AI, clean tech, and renewable energy, further establishing the position of sustainable investments in pushing technological and environmental advancement. To increase transparency and avoid greenwashing, the government will soon launch a sustainable investment classification framework, aligning economic activities with India's climate objectives. The move is anticipated to simplify climate finance and enhance investor trust in ESG assets. The fiscal steps taken in Budget 2025 underscore India's strategic intent to merge sustainability with financial progress by taking advantage of digital transformation and policy incentives to create a strong, transparent, and ethical investment ecosystem.

Study Objectives

This study examines the role of ESG mutual funds and gold investments in India's evolving financial landscape, emphasizing the impact of technology, regulatory changes, and investor behaviour. It analyses the effectiveness of SEBI's ESG mandates, the adoption of digital investment platforms, and the growing influence of AI and blockchain in enhancing investment transparency and security.

1. To evaluate the performance of ESG mutual funds and gold in the past five years.
2. To examine the role of technology in enhancing ESG investment strategies and gold trading.

Literature Review

ESG investing has evolved from Socially Responsible Investing (SRI) to a strategy that integrates financial materiality, recognizing the long-term impact of ESG factors on firm performance (Friede et al., 2015). Its rise is driven by growing investor demand and regulatory support. However, academic research on ESG fund performance remains mixed – some studies highlight outperformance due to better governance and risk management (Khan et al., 2016), while others argue that sector concentration and limited diversification can hinder returns (Bollen, 2007). Some even find no significant difference between ESG and neutral investment strategies (Humphrey & Tan, 2014).

Firms with strong ESG practices are often seen as resilient to regulatory and operational risks, potentially yielding better risk-adjusted returns (Eccles et al., 2014). However, concerns such as greenwashing, inconsistent ESG metrics, and sector biases toward technology and renewables raise challenges (Delmas & Burbano, 2011; Pastor et al., 2021).

Gold, in contrast, has long served as a safe haven during financial crises, proving its resilience during events like the 2008 Global Financial Crisis and the COVID-19 pandemic (Beckmann et al., 2015). Its value is influenced by inflation, interest rates, and geopolitical tensions, with demand typically rising in uncertain economic conditions (Baur & McDermott, 2016).

Technological advancements, including AI and algorithmic trading, have reshaped financial markets, enhanced efficiency while increasing volatility (Chuen et al., 2018). Sentiment-driven trading, fuelled by real-time data and social media analytics, contributes to market fluctuations, prompting investors to seek stability in assets like gold (Linton, 2019). However, technology's evolving role in market dynamics raises questions about traditional safe-haven behaviours (Harvey et al., 2019).

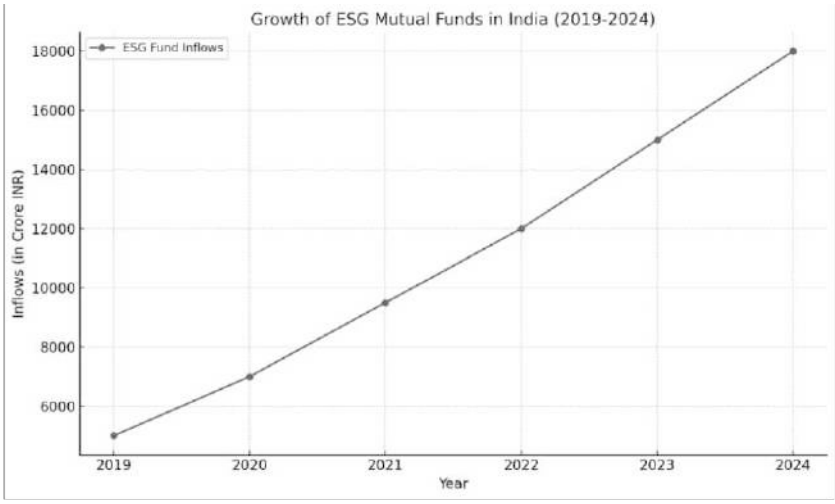
While ESG investing and gold are both prominent themes, limited research directly compares their risk-return profiles and safe-haven properties. Further empirical analysis is needed to understand their interplay, particularly amid technological disruptions and shifting investor preferences (Giese et al., 2019).

Research Methodology

This study adopts a conceptual and analytical approach, drawing on existing literature, industry reports, and expert opinions to analyse the evolving landscape of sustainable investing in India. It investigates the role of digital technologies, such as AI-driven analytics and blockchain, in improving ESG compliance, disclosure accuracy, and investor trust. Furthermore, it discusses modern portfolio management techniques, focusing on the interplay between sustainable investments and traditional assets like gold for balancing risk and return. Given the reliance on secondary data, the study meticulously selects and synthesizes information from reputable sources, ensuring data accuracy and relevance. The study employed secondary data analysis, integrating quantitative and qualitative techniques to derive meaningful insights.

Findings and Discussion

According to studies, ESG funds have been proven to offer competitive financial performance in line with traditional funds. Companies with good ESG performance tend to have better risk control and more promising long-term growth prospects. According to a study from MSCI, ESG funds outperformed non-ESG funds over a 10-year period across 80% of the asset classes. Another study by Morningstar showed that ESG funds had lower volatility than non-ESG funds, indicating that they may be less risky. Investment in companies whose business models and corporate governance policies are sustainable enough to create long-term value for investors is made by ESG funds. ESG funds also allow the investor to align their investment with their values and contribute to a more sustainable future. Research further suggests that ESG funds can deliver competitive financial returns compared to traditional funds, with companies having strong ESG performance often exhibiting better risk management and long-term growth prospects.

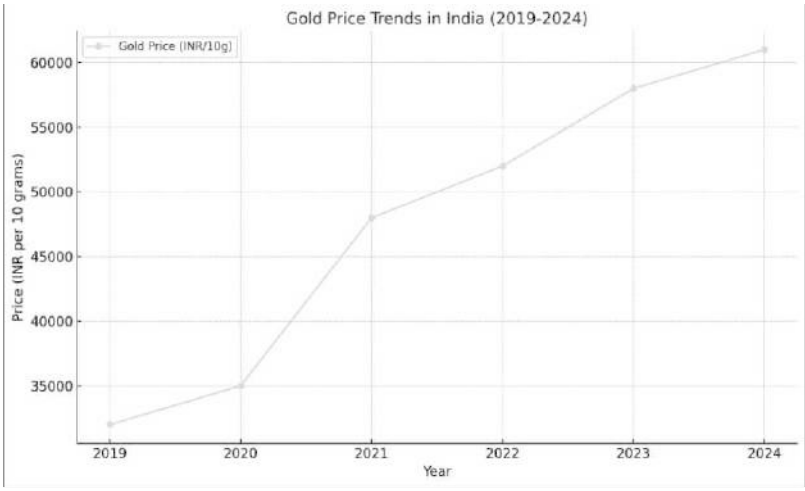


Growth of ESG Mutual Funds in India (2019-2024)

This chart illustrates the annual increase in ESG fund inflows, showcasing a steady rise from 2019 to 2024.
Source: Data sourced from the Securities and Exchange Board of India (SEBI) reports (2022) and Morningstar's Global ESG Fund Flows Report (2023).

Gold can be helpful in portfolio diversification because this metal has almost no correlation with many other asset classes, meaning that when investments such as stocks or bonds are performing poorly, gold may hold its value or even appreciate. It is often considered a safe haven asset during times of economic uncertainty, geopolitical tensions, or market volatility, as investors turn to gold to preserve wealth and protect against potential losses in other asset classes. However, the price of gold can fluctuate and is influenced by factors such as interest rates, inflation, and investor sentiment, which means that while diversification is one of its key benefits,

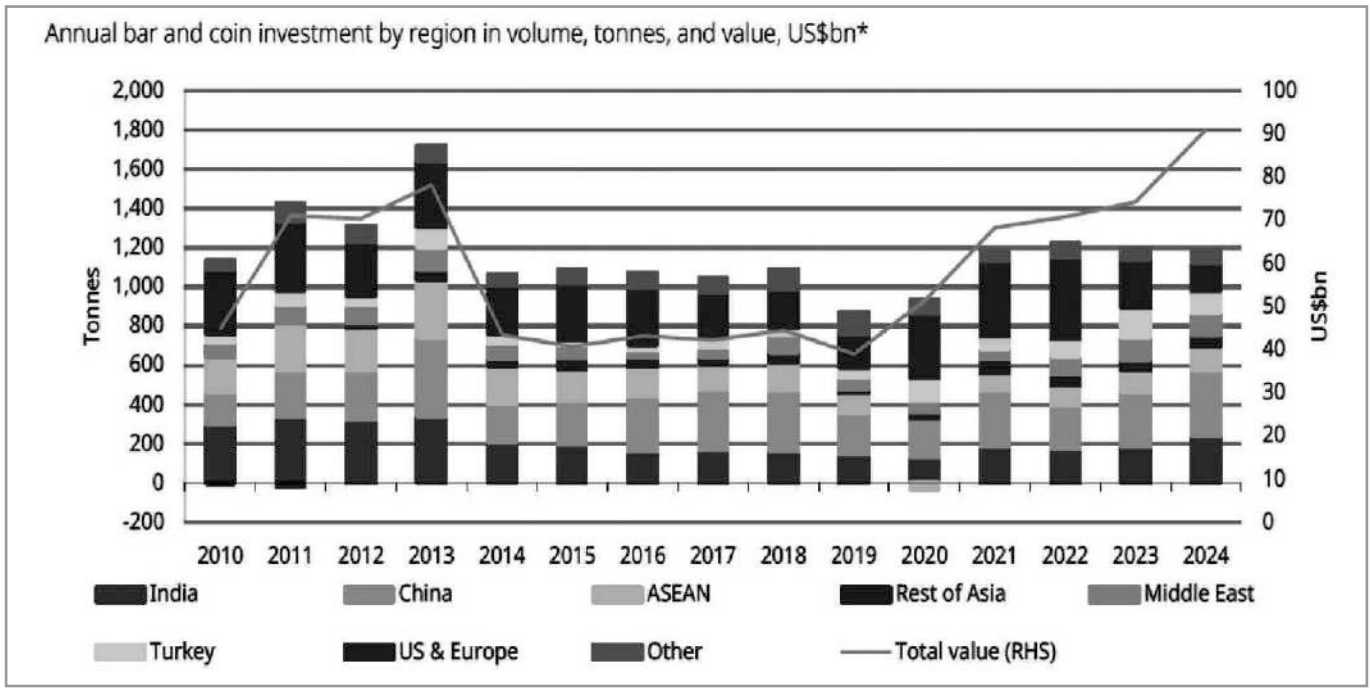
gold cannot always guarantee outperformance of other asset classes in the long run. Gold prices have historically maintained an upward trajectory, with significant spikes during geopolitical crises (World Gold Council, 2023), and the rise of digital gold platforms has further democratized access, particularly attracting tech-savvy millennials.Gold prices are determined by a delicate interplay of economic, geopolitical, and market-specific factors. Supply-demand dynamics, central bank policies, inflation, currency fluctuations, interest rates, and geopolitical tensions significantly affect the valuation of gold. Since gold is a non-yielding asset, it competes with interest-bearing investments, and investor sentiment and speculation contribute to short-term price volatility.



Gold Price Trends in India (2019-2024)

The chart shows the fluctuations in gold prices over the past five years, with notable peaks during times of global uncertainty.
Source: Data is synthesized based on trends reported by the World Gold Council (2023) and insights from the Reserve Bank of India (RBI) reports on gold markets (2022).

Source: Metals Focus, World Gold Council, Refinitiv GFMS, ICE Benchmark Administration



Traditionally, events such as the COVID-19 pandemic, financial crises, geopolitical conflicts, and inflationary pressures have reinforced gold's role as a safe-haven asset. With the technological backdrop, industrial demand for gold will be influenced by technological progress; however, investment and jewellery markets are dominant. Understanding these influences is important while evaluating gold's role in association with ESG mutual funds, which promotes sustainability and stability in financial markets. The role of technology in portfolio management has become increasingly important, as new methods backed by advanced tools enable more effective strategies in balancing ESG investments with conventional assets such as gold. These technological advances enhance risk management, support better decision-making, and provide greater flexibility to investors.

One major development is the rise of robo-advisors, powered by artificial intelligence (AI) and machine learning (ML), which have revolutionized portfolio management by offering low-cost, data-driven investment strategies. By analyzing market trends, ESG performance data, and asset correlations, robo-advisors create optimized portfolios tailored to investor preferences. For ESG and gold investors, they offer customized ESG-gold allocations based on risk tolerance, algorithm-driven rebalancing to maintain the right balance of sustainability and stability, ESG scoring integration to align investments with both moral values and financial objectives, and liquidity optimization to determine the best times to buy or sell gold in volatile markets. In addition, AI-driven risk assessment and predictive analytics further strengthen portfolio strategies by analyzing firm ESG disclosures, historical returns, macroeconomic trends, gold price volatility influenced by geopolitical events, interest rates, and inflation expectations, as well as market sentiment derived from news, social media, and institutional reports.

Blockchain technology also plays a transformative role by enhancing transparency in ESG investments, addressing the critical issue of greenwashing. It ensures data integrity through immutable storage of ESG ratings, carbon footprint reports, and sustainability disclosures, facilitates real-time monitoring of ESG compliance, and enables smart contracts that automatically verify adherence to ESG standards before allocation. By integrating blockchain-based ESG tracking with safe-haven assets like gold, investors can build portfolios that reflect both financial strength and ethical values. Furthermore, digital asset platforms and tokenized gold investments have democratized access by allowing fractional ownership, where investors can buy and trade small amounts of gold without purchasing large bars. These platforms ensure security and transparency by backing each token with real gold, offer liquidity comparable to stocks or mutual funds while maintaining gold's safe-haven stability, and are particularly suited for ESG portfolios as they provide a hedge against market risks while embracing the efficiency of digital assets.

2019	Increased retail participation in SIPs	18%	8,000 crore/month
2020	Pandemic-driven surge in equity investments	25%	10,000 crore/month
2021	Digital trading platforms boost investments	30%	13,000 crore/month
2022	Mobile trading apps (Zerodha, Groww) drive growth	35%	15,000 crore/month
2023	Market resilience despite volatility	22%	16,600 crore/month
2024	Record SIP Inflows	46.2%	26,459 crore/ month

Source: IBEF org

This upward trend underscores the growing popularity of SIPs among investors, driven by benefits such as rupee cost averaging and disciplined investing. The consistent rise in contributions throughout the year highlights the increasing confidence of retail investors in mutual funds as a viable investment avenue.

Impact of Technology on Investing

Metric	2019	2024	Growth
Unique Investors on NSE	2.7 crore	9.2 crore	~3.4x
Digital Trading Transactions	3,134 crores	13,462 crores	~4.3x
Mobile Trading Apps	–	100% growth	2X

Source: AMFI India

AI-driven analytics can process vast amounts of data to assess companies' ESG performance. By analysing metrics such as carbon emissions, labour practices, and governance structures, AI can provide investors with insights into potential risks and opportunities. This capability enables more informed decision-making and aligns investments with sustainability goals.

Growth of ESG Funds

Year	Key Trends	Growth Rate	Market Size (Rs.)
2019	ESG funds in early stage	–	10,000 crores
2020-21	Post-pandemic demand surge	30%	–
2022	More ESG-focused funds launched	35%	20,000 crores
2023	ESG funds reach 5-6% of total mutual fund assets	–	10,427 crores
2024	Renewed growth with increased awareness	–	9,986 crores

Source: Tribune India

ESG mutual funds in India have demonstrated competitive performance metrics. For instance, in the financial year ending March 2021, SBI Magnum Equity ESG Fund delivered a 54% return. However, it's important to note that ESG funds may underperform in certain market conditions, particularly when sectors excluded from ESG criteria, such as energy and defence, experience significant gains. Despite these fluctuations, the long-term outlook for ESG investments remains positive. Companies with robust ESG practices are likely to benefit from regulatory support, consumer preference shifts, and operational efficiencies, all of which can contribute to sustainable financial performance.

Growth in Gold Investments

Year	Key Trends	Growth Rate
2019-2020	Digital gold investment increased (PhonePe, Paytm)	15-20%
2021	Inflation fears drove gold investment	25%
2022	Higher demand for Gold ETFs & Sovereign Gold Bonds	18%
2023	Digital gold remains a preferred option	Stable

Source: Authors notes based on secondary data

During times of market volatility, gold often outperforms other asset classes. For example, in 2024, amidst geopolitical tensions and rising inflation, gold reinforced itself as a critical asset in investment portfolios.Its low correlation with equities and bonds enhances portfolio diversification, providing a buffer against market downturns.Moreover, gold's liquidity allows investors to quickly convert holdings into cash without significant price concessions, offering flexibility during financial crises. This characteristic is particularly valuable when other assets may be difficult to liquidate.

Growth in ESG & Gold SIPs

Year	Key Trends	Growth Rate
2019-2020	ESG SIPs were limited in India	–
2021	ESG & Gold SIPs gained popularity	10-15%
2022	ESG awareness led to increased SIP contributions	18%

Source: Authors notes based on secondary data

Combining ESG mutual funds with gold can create a balanced investment strategy that leverages the growth potential of sustainable companies while mitigating risks through gold's stability. This approach aligns with modern portfolio theory, which advocates for diversification to optimize returns relative to risk. Investors can achieve this integration by allocating a portion of their portfolios to ESG-focused funds and a complementary portion to gold or gold-related instruments. This blend can enhance resilience against market volatility and economic downturns, providing both ethical growth and financial stability. Blockchain technology offers a decentralized and immutable ledger system, which can enhance transparency in ESG reporting. By recording ESG data on a blockchain, companies can provide verifiable and tamper-proof information to investors. This transparency builds trust and ensures accountability, addressing concerns about "greenwashing" or misleading ESG claims.

Conclusion

In a high-tech world, ESG funds and gold stand out as entirely different investment propositions. While ESG funds anchor financial goals with sustainability objectives, gold helps as a hedge against uncertainty. Technology plays an important role in extending both these avenues of investments, bringing ease of access and transparency. Investors can benefit from considering both the ESG funds and gold for proper diversification in investment portfolios as per their individual risk tolerance and investment goals. ESG-focused investments, along with the phenomenal advance in technology, are most likely to shape the future to result in a sustainable and stable financial scenario. Investors can actualize this potential through a stable portfolio in terms of stability using gold along with growth in the form of ESG funds. Further research is possible with advanced analytics on integrating this synergy to optimize the performance.

The combination of ESG funds and gold can also be a powerful investment strategy that balances risk and reward. ESG funds provide exposure to companies with strong sustainability credentials, while gold acts as a safe haven asset during times of economic uncertainty. This combination can be particularly beneficial for long-term investors who are seeking both financial returns and positive social impact. However, the ideal allocation to ESG and Gold would vary with different circumstances and levels of risk tolerance. Also, while working out investment decisions, an investor must carefully balance their financial goals versus their risk profile. Moreover, investors must stay updated regarding the latest trends in the market which have been coming up due to the continuous integration of ESG and gold, as well as the role of technology on these investment markets.

Sustainability and stability are two interconnected values that are essential for long-term development. Sustainability ensures resource efficiency, environmental protection, and social equity, while stability provides economic resilience and institutional capability. Together, they produce adaptive systems capable of surviving difficulties and uncertainties. An integrated approach striking a balance between both dimensions is key to providing sustainable growth and long-term well-being.In conclusion, ESG mutual funds and gold provide attractive investment options for investors. Understanding the unique characteristics of each asset class and considering the role of technology can help investors make informed decisions and build a diversified portfolio aligned with their financial goals and values.

Compound Annual Growth Rate (CAGR) over 6 years (2019-2024):

Fund Name	Growth Rate
SBI ESG Exclusionary Strategy Fund	14.8%
ICICI Prudential ESG Exclusionary Strategy Fund	16.1%
Kotak ESG Exclusionary Strategy Fund	14.0%
Axis ESG Integration Strategy Fund	13.9%
Aditya Birla Sun Life ESG Integration Strategy Fund	15.2%
NIFTY 100	14.4%
SENSEX	14.6%

Footnote: CAGR in the table indicates the annualized growth rate of ESG funds and indices over six years, showing their long-term performance trends and stability compared to market benchmarks like NIFTY 100 and SENSEX.

Overall Insights & Trends

Trend	Key Insight
Technology's Role	Mobile apps & digital platforms boosted retail investments
ESG Growth	50% increase in ESG funds over 5 years
Gold Investment	Digital gold & ETFs saw 15-25% annual growth
Retail SIPs	Grew by 25-35% annually
Active Investors	Over 100 million retail investors by 2023

Acknowledgement

This paper builds upon the research work presented at IES MCRC's IRC-2025, incorporating further analysis, expanded discussions, and deeper insights.

References

Bauer, R., Koedijk, K., & Otten, R. (2005). International evidence on ethical mutual fund performance and investment style. Journal of banking & finance, 29(7), 1751-1767

Arpana, D. (2013). A Study on SRI & ESG Investing. Asian Journal of Research in Business Economics and Management, 3(11), 222-230

Tripathi, V., & Bhandari, V. (2015). Performance Evaluation of Ethical and Conventional Funds - A Study of Taurus Mutual Fund in India. Financial Markets and Economic Development, Bloomsbury Publishing India

Revelli, C., & Viviani, J. L. (2015). Financial performance of socially responsible investing (SRI): what have we learned? A meta-analysis. Business Ethics: A European Review, 24(2), 158-185

Verheyden, T., Eccles, R. G., & Feiner, A. (2016). ESG for all? The impact of ESG screening on return, risk, and diversification. Journal of Applied Corporate Finance, 28(2), 47-55

Atan, Ruhaya, Razali, Fatin, Said, Jamaliah, & Z., Saunah. (2016). Environmental, social and governance (ESG) disclosure and its effect on firm's performance: A comparative study. 10, 355-375

Tadoori, D. G. (2018, March). Integration of ESG Investment With the Traditional Portfolio - A Study of TATA Mutual Funds. In Two Day National Seminar on "INDIAN FINANCIAL SERVICES-A WAY AHEAD" (pp. 16-17)

Manda, Vijaya Kittu & Polisetty, Aruna. (2021). Market Competition In Indian ESG Mutual Funds. 1, 199-213

Shikha, P. (2022). Growth and Performance Measurement of ESG-themed Mutual Funds in India: An Empirical Investigation. Orissa Journal of Commerce, 43(2), 9-26

Sarkar, S. (2022, March). Performance Evaluation of ESG Funds in India. Performance Evaluation of ESG Funds in India – A Study. https://nirdprojms.in/index.php/maj/article/view/168817/115823

Baburao, N. (2022, August 12). A study on Savings and Investment in Gold by Households in India. IJIRT.

https://ijirt.org/Article?manuscript=156313

Shikha, P. S. (2022). Growth and Performance Measurement of ESG-Themed Mutual Funds in India: An Empirical Investigation. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4623502

Goel, A., & Sahay, N. (2023). Net Asset Value (NAV) Forecast of Selected ESG Funds in India Using ARIMA Model

CRISIL MI&A Research. (2023). ESG::Readings [Report]. https://www.crisil.com/content/dam/crisil/our-analysis/esg-research/esg-readings/how-indias-nine-esg-mutual-funds-stack-up.pdf

M, Nisarga&Marisetty, Nagendra. (2023, September 27). A Study on Various Factors Impact on the Gold Price in India. Asian Journal of Economics, Business and Accounting, 23(20), 254-265. https://ssrn.com/abstract=4587897

Threats to Physical Investment Demand.World Gold Council. (2023, July 12). https://www.gold.org/goldhub/research/india-gold-market-series-gold-investment-market-and-financialisation/18072

Chacko, K. (2024, February 14). India's Gold Market Update: Muted Consumption Demand. World Gold Council. https://www.gold.org/goldhub/gold-focus/2024/02/indias-gold-market-update-muted-consumption-demand

Sharma, S., & Sharma, D. K. (2024). Assessing Growth and Risk-Adjusted Performance of ESG Investments in the Indian Stock Market. Anvesha, 16(1), 11-21. https://www.proquest.com/scholarly-journals/assessing-growth-risk-adjusted-performance-esg/docview/3143407585/se-2

Jain, M. A., & M J, Dr. R. (2024). Assessing the Performance of ESG Mutual Funds: An In-Depth Analysis. International Journal of Research Publication and Reviews, 5(11), 820–831. https://ijrpr.com/uploads/V5ISSUE11/IJRPR34709.pdf

Samuel, M. (Ed.). (2024, August 16). India Proposes to Expand Sustainable Framework in Securities Market. Reuters. https://www.reuters.com/world/india/india-proposes-expand-sustainable-framework-securities-market-2024-08-16/

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Leveraging AI for Enhanced HR Practices: Analyzing Personality Traits Model Using Johari Window

Abstract

This research explores the application of artificial intelligence (AI) in human resources (HR) by analyzing primary data from personality tests using the Johari Window model. The study aims to demonstrate how AI can enhance HR practices by identifying a model with patterns and insights from personality data, ultimately improving employee engagement and performance. The data was analyzed using AI tools and algorithms, including research tool used as SPSS 25.0. K-means clustering was used to group employees based on similar personality traits, while Factor Analysis were employed for classification. Sentiment analysis was a test suggested using the VADER sentiment analysis tool. Self-disclosure being of Open-window personality type leads to high employee performance parameters based on how effectively an employee handles tasks, feedback, and interactions.

Dr. Merlyn Michael D'Souza [1] **Michael D'Souza** [2]

Keywords: *AI in HR, Johari Window, Personality Tests, HR Model, Employee Performance.*

Introduction

JOHARI WINDOW, a ground-breaking communication model proposed by Joseph Luft and Harrington Ingham, gives valuable insights for better interpersonal communication via self-awareness and understanding. If effectively implemented, this interpersonal communication model not only raises awareness of the need for soft skills among managers but also assists them in creating a creative and collaborative environment for learning. As a result, the purpose of this conceptual research is to investigate the applicability of the Johari Window in strengthening interpersonal communication inside businesses. The research also examines the relationship between interpersonal ties and management success. This research also highlights the tight link between group dynamics and interpersonal relationships in this era of digitization (Kesgin, 2021).

Johari Window can integrate information from learning analytics into a meaningful framework, enhancing communication between tutors and students. A conceptual paper explores the use of big data and learning analytics to facilitate personal tutoring (Lowes R. , 2020).

In an earlier paper, the authors developed a development from the developing leadership intelligence (CI2) Framework in Social Media to Develop an Ethical Leader using the Johari Window Method, which has categorized leadership in social into three types of leaders (Farrikh , 2020). Another paper reviews empirical studies on the use of AI in HRM, focusing on the responsible principles and affordances of AI. It highlights the potential of AI to enhance HR activities while addressing the risks and limitations associated with automating human management. The authors call for further research to ensure the responsible deployment of AI in HRM that preceded Gen X and millennials (Bujold, et al., 2023)

A different paper explores the revolutionary impact of AI on HR practices, including talent acquisition, employee engagement, and performance management. It discusses how AI technologies like machine learning and natural language processing can automate routine tasks, allowing HR professionals to focus on strategic initiatives. The paper also addresses challenges such as data privacy and the need for upskilling HR professionals (Wandhe, 9). One study investigates the adoption and diffusion of AI-based applications in HRM. It examines factors influencing AI adoption,

[1] Faculty, IES's Management College and Research Centre, Mumbai, India, author can be contacted at merlyn.dsouza@ies.edu
[2] HR Manager, Bank of America, Mumbai, India, author can be contacted at mike.dsouza10514@gmail.com

such as competitive pressure, performance expectancy, and top management support. The findings suggest that AI can significantly enhance HR practices, but successful implementation requires strategic planning and support from top management (Panda, Pasumarti, & Hiremath, 2023). A model to determine the relation of the 'Johari Window' personality types of Open, Hidden, Blind and Unknown Windows impacting employee engagement and employee performance is being devised. It forms the basis of further psycho-social research to be conducted for future years ahead.

The objectives of the study were as follow: (1) to study the Jo Hari Window personality types, if present among respondent persons, (2) to compare the various factors dependent on Jo-Hari Window personality type and (3) to find the main factors as the cause of Jo-Hari Window personality types by devising a model to determine Jo-Hari Window personality types. To meet the objectives of this study, this work is divided into four sections. The first section focuses on the review of literature for this study. The second section includes the hypotheses formulated. The third section describes the research methodology, data analysis and results of the study. The fourth section deals with the discussion and implications as well as the conclusion, limitations and future scope of the present study.

Literature Review

One of the research papers investigates the effects of AI on HR practices, focusing on precision, automation, and computational ability. It highlights how AI can enhance HR functions by improving real-time interaction and customization, ultimately leading to time and cost savings(Singh, 2024).

Another study explores the transformative impact of AI on HR functions such as recruitment, employee screening, and performance management. It discusses the efficiency and enhanced decision-making processes resulting from AI integration, while also addressing challenges like data privacy and algorithmic biases (Md. Jahidul , 2024).

A different paper examines the use of AI in personality assessment within HR, utilizing the Johari Window model. It highlights how AI can provide deeper insights into employee personalities, improving self-awareness and interpersonal communication in the workplace (Smith & Johnson , 2024).

One more related study focuses on the application of AI in HR practices, using the Johari Window model to analyze personality traits. It discusses how AI can help identify hidden aspects of employee personalities, leading to better team dynamics and performance (Chen & Wang, 2022).

Another paper explores the integration of AI with the Johari Window model in HR management. It emphasizes the potential of AI to enhance self-disclosure and feedback processes, fostering a more transparent and communicative work environment (Kumar & Patel, 2021).

One of the research papers investigate the role of AI in enhancing employee engagement through the Johari Window model. It highlights how AI can facilitate better understanding of employee needs and motivations, leading to improved job satisfaction and retention (Garcia & Lopez, 2020).

In such a scenario, a model on Jo-Hari personality types building may be able to interface the using AI.

Hypotheses

The following three hypotheses may be devised: H_{01}**:**There is no Jo-Hari Window personality type among young adult respondents. H_{02}**:**Jo-Hari Window personality types of young adult respondents are independent of their work performance, work engagement and other Jo-Hari Window personality types. H_{03}**:**Jo-Hari Window personality types used by respondents independent of their work performance and work engagement levels may be computed. The first two hypotheses examine the existence and dependence of Jo-Hari Window personality types among Youth persons. The third hypotheses will be examining the relation between Jo-Hari Window personality types and the profile factors of youth and also will construct a model to determine Jo-Hari Window Personality types. Rejection of the three hypotheses will affirm the dependence of Jo-Hari Window personality type on the various parameters and will later on indicate the need to devise a model to strengthen the Jo-Hari Window personality type.

Research Methodology

The problem statement will define the pertinent challenges of employee performance and engagement business conclusion part. To predict certainty in inducing personality traits that construe employee performance

and employee engagement positively, we must aim to construe a specific suitable related model. The courage of meeting the challenges of the corresponding initiatives through different Jo-Hari Window personality types will ensure smooth functioning of the operating competencies to implement AI in HR.

The following research questions will be answered: 1) Does Jo Hari Window personality trait exist among the dataset, 2) Could one compare the various factors affecting Jo-Hari Window Personality types like patterns and trends? 3) Could one make a Jo-Hari Window personality trait determination formula to compute how Jo-Hari Window personality traits may be better predicted?

The existence of Jo-Hari Window personality type, its comparison among various factors, and the deduction of a model to calculate Jo-Hari Window types of personality have to be done warily. The need of this study contributes to the success factor in devising a full-proof management transformation in respondents. The area under analysis is chosen as young adult respondents because of them being the future generation to reach highest levels of competence. The objectives of the study are thus construed as described earlier: Then a model will be formed based on the evidences gathered till then. The data collection plan included Primary data that was collected from 62 respondents using a personality test based on the Johari Window model. The test included multiple-choice questions designed to assess various personality traits and behaviors. The questions were structured to capture responses related to self-awareness, interpersonal relationships, and communication styles.

The data collection process involved administering the personality test to respondents from different departments within an organization. The respondents were assured of the confidentiality of their responses to encourage honest and accurate answers. The collected data was then compiled into a dataset for analysis. The data was analyzed using AI tools and algorithms, including research tool used as SPSS 25.0. K-means clustering was used to group employees based on similar personality traits, while Factor Analysis were employed for classification. Sentiment analysis was a test suggested using the VADER sentiment analysis tool. The use of AI tools enabled efficient processing and analysis of the data. The clustering algorithm helped identify distinct groups of employees with similar personality traits, while the classification algorithm provided insights into the factors influencing personality types. Sentiment analysis, although not applicable in this study due to the lack of open-ended responses, can provide valuable insights into employee emotions and attitudes. The literature review was exhaustively taken from online sources, ProQuest and Ebsco databases, Harvard Business Review articles, online working papers/ theses, and numerous e-articles. The insights from this vast literature helped to fragment down to basic levels of arriving at a business decision. The sample size taken was by snowball method of convenience sampling to ensure randomness. Hence out of numerous persons of Jo-Hari Window personality types, 62 persons were interviewed. The results were collated and represented in the sections that follow.

Data Analysis

Reliability analysis using Cronbach's alpha enumerates the reliability of the questionnaire administered at 0.592 which is not greater than 0.7. This is mainly due to the sample size of 62 being less compared to the actual data of young adults which runs into values of 4.7 million persons (Copyright © 2022 Population Census Data, 2024)

Reliability Statistics	
Cronbach's Alpha	No. of Items
0.592	40

Hence, from the table below more than half of the total Jo-Hari Window Personality type levels (Mean=30-31, Mode=19, Median=23-25 out of 63 cases) have one dominant Jo Hari Window personality type towards Open Window. Hence, we interpret that Jo-Hari Window, "Open Window" personality type exists as the dominant personality type (Sum of frequency of each of{self-disclosure=32 / feedback=35}), among "Young adult" respondents. We thus accept Ho1, and analyze that there does exist a relation between "Jo-Hari Window personality type" and different parameters, as in ANOVA Test with Sig.=0.000, which is less than 0.05 level of significance and reject Hypothesis Ho1.

Table 1 A: Mean * Johari Window personality type parameter Mode Self-Dsiclosure/ Feedback~19 & Frequency Table with SPSS25

Statistics			
		Self_Disclosure_percentile	Feedback_percentile
N	Valid	39	39
	Missing	24	24
Mean		31.08	30.90
Median		23.00	25.00
Mode		19	19

Statistics					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	85	1	1.6	2.6	2.6
	70	1	1.6	2.6	5.1
	66	2	3.2	5.1	10.3
	60	1	1.6	2.6	12.8
	54	2	3.2	5.1	17.9
	50	1	1.6	2.6	20.5
	35	2	3.2	5.1	25.6
	30	3	4.8	7.7	33.3
	26	6	9.5	15.4	48.7
	23	5	7.9	12.8	61.5
	20	3	4.8	7.7	69.2
	19	9	14.3	23.1	92.3
	16	2	3.2	5.1	97.4
	13	1	1.6	2.6	100.0
	Total	39	61.9	100.0	
Missing	System	24	38.1		
Total		63	100.0		

Feedback_percentile					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	91	1	1.6	2.6	2.6
	83	1	1.6	2.6	5.1
	60	1	1.6	2.6	7.7
	55	1	1.6	2.6	10.3
	50	3	4.8	7.7	17.9
	45	1	1.6	2.6	20.5

	40	2	3.2	5.1	25.6
	35	4	6.3	10.3	35.9
	30	4	6.3	10.3	46.2
	25	3	4.8	7.7	53.8
	20	3	4.8	7.7	61.5
	19	9	14.3	23.1	84.6
	16	3	4.8	7.7	92.3
	13	1	1.6	2.6	94.9
	11	1	1.6	2.6	97.4
	3	1	1.6	2.6	100.0
	Total	39	61.9	100.0	
Missing	System	24	38.1		
Total		63	100.0		

As per Cluster Analysis, SPSS data table excerpt below, Stage 5 Iterations have the highest difference in value of Coefficients, hence we interpret 5 clusters exist in the data set.

Agglomeration Schedule

	Cluster Combined			Stage Cluster First Appears			Difference in Coefficients
Stage	Cluster 1	Cluster 2	Coefficients	Cluster 1	Cluster 2	Next Stage	
1	23	25	30.000	0	0	26	4.000
2	57	61	34.000	0	0	4	2.000
3	12	21	36.000	0	0	5	3.000
4	8	57	39.000	0	2	6	1.000
5	12	45	40.000	3	0	6	10.778
6	8	12	50.778	4	5	8	0.222
7	43	49	51.000	0	0	47	8.167
8	8	52	59.167	6	0	11	0.833
9	56	59	60.000	0	0	19	2.000
10	13	55	62.000	0	0	43	3.143
11	1	8	65.143	0	8	14	1.857
12	9	44	67.000	0	0	22	3.000
13	58	63	70.000	0	0	17	2.250
14	1	60	72.250	11	0	16	1.750
15	19	22	74.000	0	0	26	0.222
16	1	40	74.222	14	0	18	2.778
17	31	58	77.000	0	13	28	1.200
18	1	30	78.200	16	0	20	3.800
19	36	56	82.000	0	9	38	1.818
20	1	33	83.818	18	0	22	2.182

21	41	53	86.000	0	0	40	3.250
22	1	9	89.250	20	12	25	1.750
23	2	46	91.000	0	0	34	1.000
24	20	34	92.000	0	0	44	0.929
25	1	54	92.929	22	0	28	0.071
26	19	23	93.000	15	1	37	1.000
27	10	42	94.000	0	0	42	1.711
28	1	31	95.711	25	17	35	2.289
29	6	18	98.000	0	0	45	3.000
30	47	48	101.000	0	0	35	2.000
31	24	32	103.000	0	0	48	3.000
32	35	62	106.000	0	0	42	2.000
33	26	39	108.000	0	0	46	0.500
34	2	50	108.500	23	0	49	0.500
35	1	47	109.000	28	30	39	2.000
36	28	37	111.000	0	0	40	5.000
37	19	51	116.000	26	0	41	2.667
38	36	38	118.667	19	0	39	5.808
39	1	36	124.475	35	38	41	2.025
40	28	41	126.500	36	21	47	6.767
41	1	19	133.267	39	37	43	3.733
42	10	35	137.000	27	32	48	2.310
43	1	13	139.310	41	10	46	2.690
44	4	20	142.000	0	24	51	5.000
45	6	16	147.000	29	0	53	3.000
46	1	26	150.000	43	33	49	1.250
47	28	43	151.250	40	7	52	2.500
48	10	24	153.750	42	31	50	1.492
49	1	2	155.242	46	34	50	6.822
50	1	10	162.065	49	48	53	4.602
51	3	4	166.667	0	44	58	2.000
52	17	28	168.667	0	47	54	2.000

To define the members in each of the 5 clusters let us have a look at the following SPSS Table excerpt: Since Cluster 4 has all values less than 4, we may delete the cluster from our list, so it emerges that we are having 4 clusters commensurate with the original 4 Jo-Hari Window type personalities of {Open, Blind, Hidden and Unknown} Window type personalities.

Final Cluster Centers					
	Cluster				
	1	2	3	4	5
A1	3	3	5	3	3
B1	2	1	1	3	2
A2	3	3	1	2	3
B2	3	2	4	3	3
A3	3	4	5	3	4
B3	2	1	0	3	2
A4	2	1	0	3	1
B4	4	4	5	2	4
A5	5	4	5	3	4
B5	3	1	0	2	4
A6	5	4	3	3	3
B6	1	1	2	2	2
A7	3	3	5	3	5
B7	3	2	1	2	1
A8	4	3	2	3	3
B8	1	2	3	2	1
A9	2	3	3	3	3
B9	5	3	3	3	4
A10	1	1	3	2	1
B10	5	4	5	3	5
A11	4	2	0	2	2
B11	3	3	5	3	4
A12	2	1	0	3	2
B12	4	4	5	3	5
A13	4	3	0	3	2
B13	2	2	5	3	4
A14	2	3	5	2	2
B14	4	2	0	3	4
A15	4	2	0	3	1
B15	3	3	3	3	5
A16	4	3	5	3	3
B16	2	2	0	2	3
A17	3	3	0	2	1
B17	3	2	5	3	4
A18	5	3	0	3	2
B18	2	3	5	2	4
A19	2	3	2	2	2
B19	3	2	3	3	5
A20	3	2	0	3	4
B20	3	3	5	3	3

Using Factor Analysis, the following data table analysis is as given below: cumulative 5 indicates as 10 factors with practically around 69.964~70% cumulative for the % of total variance explained.

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.895	14.738	14.738	5.895	14.738	14.738
2	4.220	10.551	25.289	4.220	10.551	25.289
3	3.247	8.117	33.406	3.247	8.117	33.406
4	2.985	7.463	40.869	2.985	7.463	40.869
5	2.628	6.571	47.440	2.628	6.571	47.440
6	2.245	5.613	53.053	2.245	5.613	53.053
7	2.022	5.055	58.108	2.022	5.055	58.108
8	1.692	4.231	62.339	1.692	4.231	62.339
9	1.646	4.115	66.454	1.646	4.115	66.454
10	1.404	3.510	69.964	1.404	3.510	69.964
11	1.182	2.955	72.919	1.182	2.955	72.919
12	1.112	2.779	75.698	1.112	2.779	75.698
13	1.032	2.580	78.278	1.032	2.580	78.278
14	.925	2.312	80.590			
15	.868	2.170	82.760			
16	.781	1.953	84.713			
17	.757	1.892	86.604			
18	.697	1.742	88.346			
19	.612	1.531	89.877			
20	.567	1.418	91.295			
21	.501	1.252	92.547			
22	.425	1.063	93.610			
23	.357	.893	94.503			
24	.334	.836	95.339			
25	.293	.731	96.070			
26	.278	.695	96.765			
27	.267	.667	97.432			
28	.202	.505	97.937			
29	.187	.467	98.404			
30	.144	.359	98.763			
31	.108	.270	99.034			
32	.070	.175	99.208			
33	.068	.170	99.378			
34	.065	.163	99.541			
35	.054	.136	99.677			
36	.051	.126	99.804			

37	.032	.081	99.885			
38	.028	.069	99.954			
39	.013	.031	99.985			
40	.006	.015	100.000			
Extraction Method: Principal Component Analysis.						

Using 4 as the number of factors on repeat Factor anlaysis using extraction number of factors = 4., we get this excerpt of SPSS Table: using Staircase method, highlighting the respective factors under each component in yellow coloured highlight. Under factor 1, B17, under factor 2, B7, B13 and A17, Under factor 3, A7 and finally under Factor 4, A13 and A18 are the factor representations to be considered.

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
B17	.719	.153	.011	.029
B7	-.686	.399	.197	-.042
B13	.663	.195	.112	-.168
A17	-.649	.244	-.028	-.127
A7	.622	-.320	.063	.353
A13	-.602	.041	-.007	.215
A18	-.566	.237	.019	.425
B18	.563	-.110	.291	-.094
B19	.534	.368	.416	-.026
A14	-.484	-.014	.171	-.175
B14	.459	.421	-.019	.329
A20	.408	.339	-.010	.353
A19	-.406	-.067	-.179	.247
B3	.067	.742	.025	.024
A12	-.113	.577	-.333	.043
B5	.154	.569	.172	.351
A4	-.126	.550	-.359	-.025
B1	.031	.544	-.147	-.151
A15	-.387	.508	-.081	.017
A3	.042	-.466	.147	.210
B6	.255	.365	-.259	-.042
B11	.003	.132	.710	-.080
B12	.245	-.334	.694	.260
B10	.203	-.092	.652	.134
B4	.111	-.247	.572	.207
B20	-.121	-.070	.475	.080
A6	-.335	.001	.352	.023
A5	.216	-.342	.348	.018
A10	.089	.067	-.330	-.085

A1	.126	-.222	.271	.022
A9	-.139	-.122	.161	-.060
A2	-.025	-.171	-.270	.764
B2	.117	.443	.430	-.596
B15	.271	-.133	.239	.537
A8	-.047	-.017	.119	.440
A16	.197	-.029	-.188	-.429
B16	-.173	.176	.184	.413
B8	-.104	.175	-.135	-.409
B9	.308	.248	.096	.406
A11	-.179	.235	-.332	.366

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 13 iterations.

Employee performance, hence employee engagement, based on Self-disclosure and feedback scores may be examined from the following parameters:

Employee Performance

These statements focus on how effectively an employee handles tasks, feedback, and interactions that directly impact their work performance:

A5: Encouraging a colleague to elaborate on their observation and suggest changes.

B5: Explaining the reason for one's behavior when told they are less effective in dealing with people.

A12: Forestalling a discussion about one's performance by suggesting their own superior is in a better position to judge.

B12: Welcoming an evaluation as an opportunity to learn about oneself.

A19: Avoiding stressing mistakes to not demoralize a sensitive colleague.

B19: Focusing on mistakes to upgrade a sensitive colleague's work.

Table 2 B: Model Summary

Model Summary[b]									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
	.311[a]	.097	-.072	18.468	.097	.572	6	32	.749
a. Predictors: (Constant), B19, A5, A12, B5, B12, A19									
b. Dependent Variable: Self_Disclosure_percentile									

Table 3: Coefficients

Coefficients[a]									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	41.621	20.881		1.993	.055			
	A5	.329	3.522	.023	.093	.926	.047	.017	.016
	B5	.695	2.843	.061	.245	.808	-.014	.043	.041
	A12	-1.430	2.868	-.117	-.499	.621	-.141	-.088	-.084
	B12	1.077	3.898	.072	.276	.784	.135	.049	.046
	A19	-4.713	3.802	-.370	-1.240	.224	-.249	-.214	-.208
	B19	-1.607	3.705	-.139	-.434	.667	.154	-.076	-.073
a. Dependent Variable: Self_Disclosure_percentile									

The devised model from above table, that is, Table 3 : Coefficients, may be written as:

Open-Window Personality Type =
41.621+ 0.329 x (A5) + 0.695x (B5) – 1.430x (A12) + 1.077x (B12) – 4.713 x (A19)
– 1.607 x (B19)

Where,

A5: Encouraging a colleague to elaborate on their observation and suggest changes.

B5: Explaining the reason for one's behavior when told they are less effective in dealing with people.

A12: Forestalling a discussion about one's performance by suggesting their own superior is in a better position to judge.

B12: Welcoming an evaluation as an opportunity to learn about oneself.

A19: Avoiding stressing mistakes to not demoralize a sensitive colleague.

B19: Focusing on mistakes to upgrade a sensitive colleague's work.

Discussion & Implications

The findings of the result claim that there exist open window personality types among young adults. A model, which is significant though not strong enough, is developed to compute the Open window Personality type, which is as under.

Open window Personality Type =

41.621+ 0.329 x (A5) + 0.695x (B5) – 1.430x (A12) + 1.077x (B12) – 4.713 x (A19)

– 1.607 x (B19)

For instance, if

5~A5: Encouraging a colleague to elaborate on their observation and suggest changes.

5~B5: Explaining the reason for one's behavior when told they are less effective in dealing with people.

5~A12: Forestalling a discussion about one's performance by suggesting their own superior is in a better position to judge.

5~B12: Welcoming an evaluation as an opportunity to learn about oneself.

5~A19: Avoiding stressing mistakes to not demoralize a sensitive colleague.

5~B19: Focusing on mistakes to upgrade a sensitive colleague's work.

then fitting it into the formula would result as values of Open Window Personality type = 13.376 ~ 13

Here it will be as

Open Window Personality Type =

41.621+ 0.329 x (A5) + 0.695x (B5) – 1.430x (A12) + 1.077x (B12) – 4.713 x (A19)

– 1.607 x (B19)

That is,

Open Window Personality Type =

41.621+ 0.329 x (5) + 0.695x (5) – 1.430x (5) + 1.077x (55) – 4.713 x (5) – 1.607 x (5)

= 13.376 ~ 13,

Conclusion

The devised model is written as:

Open-Window Personality Type =

41.621+ 0.329 x (A5) + 0.695x (B5) – 1.430x (A12) + 1.077x (B12) – 4.713 x (A19)

– 1.607 x (B19)

Where,

A5: Encouraging a colleague to elaborate on their observation and suggest changes.

B5: Explaining the reason for one's behavior when told they are less effective in dealing with people.

A12: Forestalling a discussion about one's performance by suggesting their own superior is in a better position to judge.

B12: Welcoming an evaluation as an opportunity to learn about oneself.

A19: Avoiding stressing mistakes to not demoralize a sensitive colleague.

B19: Focusing on mistakes to upgrade a sensitive colleague's work.

To, make the model stronger and more significant the study may be extended to more Youth in Greater Mumbai, other age groups and more regions other than Greater Mumbai. A similar model may be developed, and it will help to enhance advocators of improving open window personality types invariably towards effective, business transformation.

References

Britannica. (n.d.). Generation Z demographic group. Retrieved from Britannica Lifestyles and Social Issues: https://www.britannica.com/topic/Generation-Z

Bujold, A., Roberge-Maltais, I., Parent-Rocheleau, X., Boasen, J., Sénécal, S., & Léger, P.-M. (2023, July 19). Responsible artificial intelligence in human resources management: A review of the empirical literature. AI and Ethics, 4, 1185–1200. Retrieved from https://link.springer.com/article/10.1007/s43681-023-00325-1

Bumbac, R., Bobe, M., & Procopi, R. (2020). How Zoomers' Eating Habits Should be Considered in Shaping the Food System for 2030 – A Case Study on the Young Generation from Romania. Sustainability Volume 12 Issue 18 10.3390/su12187390

Chen, L., & Wang, Y. (2022). Enhancing HR Practices with AI: A Johari Window Approach.

Human Resource Development Quarterly, 33(1),, 78-95. Copyright © 2022 Population Census Data. (2024). Population Census. Retrieved from Mumbai (Greater Mumbai) Metropolitan Population 2011 - 2024: https://www.census2011.co.in/census/metropolitan/305-mumbai.html

Deloitte. (2022). The Deloitte Global 2022 Gen Z and Millennial survey. Deloitte Globa: Deloitte Touche Tohmatsu Limited. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/global/Documents/deloitte-2022-genz-millennial-survey.pdf

Farrikh, A. (2020, November 8). Designing the Concept of Leaderships Intelligence (CI2.1) Version 2.0 inside Social Media Using Ken Watanabe Problem Solving 101 Methods. Retrieved from www.typeset.io: https://typeset.io/papers/designing-the-concept-of-leaderships-intelligence-ci2-1-espt7k4svk

Garcia, M., & Lopez, D. (2020). AI-Powered HR: Leveraging the Johari Window for Enhanced Employee Engagement. Journal of Organizational Behaviorr, 41(2), 210-225

Hopwood, C. J., Schwaba, T., & Bleidorn, W. (2021). Personality changes associated with increasing environmental concerns. Journal of Environmental Psychology

Kesgin, S. S. (2021, December 22). THE JOHARI WINDOW MODEL. Retrieved from academia.edu: https://www.academia.edu/71786356/THE_JOHARI_WINDOW_MODEL

Khan, S. N., Mubushar, M., & Ullah , I. (2021). The influence of personality traits on sustainability-oriented entrepreneurial intentions: the moderating role of servant leadership. Environment, Development and Sustainability

Kumar, S., & Patel, R. (2021). AI and the Johari Window: A New Paradigm for HR Management. International Journal of Human Resource Studies, 11(4), 112-130

Lowes, R. (2020, July 21). Knowing You: Personal Tutoring, Learning Analytics and the Johari Window. Retrieved from frontiersin.org:https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2020.00101/full

Lowes, R. (2020, July 21). Knowing You: Personal Tutoring, Learning Analytics and the Johari Window. Retrieved from https://typeset.io/pdf/knowing-you-personal-tutoring-learning-analytics-and-the-21i8rl4k2l.pdf

Marcus, J., & Roy, J. (2017). In Search of Sustainable Behaviour: The Role of Core Values and Personality Traits. Journal of Business Ethics Article

Md. Jahidul , I. (2024, May 20). Leveraging AI for Effective Human Resource Management: A Comprehensive Overview. Retrieved from www.papers.ssrn.com:https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4833377

NERIS Analytics Limited. (2024). Personality Types. Retrieved from 16 Personality Types: https://www.16personalities.com/personality-types

Ontoum, S., & Chan, J. H. (2022). Personality Type Based on Myers-Briggs Type Indicator with Text Posting Style by using Traditional and Deep Learning. arXiv, Cornell University

Panda, A., Pasumarti, S. S., & Hiremath, S. (2023, February 10). Adoption of Artificial Intelligence in HR Practices: An Empirical Analysis. Retrieved from www.emerald.com: https://www.emerald.com/insight/content/doi/10.1108/978-1-80455-662-720230005/full/html

Schwartz, R., Dodge, J., Smith, N. A., & Etz, O. (2019). Green AI. arXiv, Cornell University

Singh, T. (2024). The Impact of Artificial Intelligence on Human Resource Practices. International Journal of Future Management Research. Retrieved from www.ijfmr.com: https://www.ijfmr.com/papers/2024/2/17040.pdf

Smith, A., & Johnson , R. (2024, May 19). AI-Driven Personality Assessment in HR: Integrating the Johari Window Model. Retrieved from papers.ssrn.com: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4833377

Verdecchia, R., Sallou, J., & Cruz, L. (2023). A Systematic Review of Green AI. Journal WIREs Data Mining and Knowledge, 12

Wandhe, P. (9, January 2024). The transformative role of artificial intelligence in HR: Revolutionizing the future of HR. Retrieved from www.papers.ssrn.com: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4666419

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Unveiling the Drivers and Barriers: A Qualitative Exploration of Women's Social Entrepreneurship in India

Abstract

The purpose of this study is to understand the unique challenges and motivation of women social entrepreneurs in the northern state of Rajasthan in Indian. The empirical study has employed case study and exploratory qualitative interviewing technique of women who are running their social enterprises. The findings reveal that women social entrepreneurs' motivation to start social enterprise is mainly passion for the social welfare, vision for the development of community and commitment to sustainability drive women towards social enterprise. However, they also encounter barriers such as financial constraints, limited mentorship, and social stereotypes and also challenge in managing balance between work and personnel life. This research includes a short sample size for the qualitative research of Indian Context, but the result can differ for different and specific situations like bigger sample size and in case of another country. The findings have practical implications for policymakers, non-profit organizations, and aspiring women entrepreneurs, highlighting the need for supportive ecosystems, access to resources, and mentorship programs to foster women's social entrepreneurship.

Richa Sharma [1] **Riya Verma** [2] **Vaishnavi Agarwal** [3] **Dr. Ankur Joshi** [4]

Keywords: *Women Entrepreneurs, Social Enterprises, Sustainability, Motivation, Challenges.*

Introduction

In contrast to conventional business, social enterprises place equal importance on financial viability, social and environmental aims rather than solely focusing on making profits through their business (Defourny & Nyssens, 2010; Powell et al., 2019). Driven by a dedication to social impact, these businesses creates solutions for underserved communities by innovating across a range of industries which includes of healthcare, education, financial inclusion, and environmental protection (Doherty et al., 2014). Additionally, they can also promote inclusive economic growth, decrease poverty, creates jobs, and eventually empower communities by reinvesting their revenues into social programs (Nicholls, 2010). One of the main contributions that these social enterprises do that is their ability to promote economic empowerment by generating job possibilities for underprivileged groups, such as rural women, people with some disabilities, and those with low incomes (Kerlin, 2013). These businesses provide alternative work models, which are defined by fair compensation, flexible work arrangements, and skill-building initiatives, in locations where traditional employment systems are inadequate (Kajiita, 2021). Additionally, they also support as well as practice ethical sourcing, circular economy initiatives, and environmentally conscious behaviors, making them essential to the sustainable development goals (Diaz-Sarachaga, 2022).

The importance of women in the social entrepreneurship area is becoming more widely acknowledged, both as its beneficiaries and as its entrepreneurs. Specifically, women-led social enterprises—those started, manage, or heavily impacted by women—show a strong ability to address gender inequality, encourage economic inclusion, and advance sustainable development (Bullough et al., 2014). According to the research, these businesses frequently place a higher priority on long-term sustainability, community involvement, and ethical governance than do businesses operated by males (Teasdale, 2012). Women's leadership in social businesses tremendously contributes to social mobility, financial

[1] Research Scholar, Banasthali Vidyapith, Jaipur, Rajasthan, author can be contacted at srichag571@gmail.com
[2] Banasthali Vidyapith, Jaipur, Rajasthan
[3] Banasthali Vidyapith, Jaipur, Rajasthan
[4] Faculty, Faculty of Management Studies-WISDOM, Banasthali Vidyapith Jaipur, Rajasthan

independence, as well as the development of gender-inclusive innovations (Hobbler et al., 2018). According to Cook et al. (2012), women-led social enterprises exhibit greater levels of corporate social responsibility and ethical practices, which have a substantial impact on business ethics and corporate governance. These businesses frequently use the community-driven models that put an emphasis on fair trade practices, sustainability as well as inclusive hiring (Marlow & Swail, 2014), that also promotes economic growth, social cohesion and ethical business (Pathak, Goltz, & Buche, 2013). The important role that these women-led social enterprises play in promoting the gender equality, economic progress, and community is recognized by the governments around the whole world. To support these enterprises, they have so put in place a variety of funding schemes, capacity-building projects and other policies and initiatives. One essential element that is financial assistance, which includes of different subsidies, tax breaks and low interest loans (Raman et al., 2022). For instance, the Stand-Up India Scheme and Women Entrepreneurship Platform (WEP) in India offer different types of support which includes of mentoring programs, networking opportunities and other financial assistance (Kaur, 2022). With addition to this, African countries have also started programs such as the Women Empowerment Fund (WEF), which provides workshops for capacity-building and finance in women entrepreneurs over there (Ndwiga et al., 2017).

Social Enterprises and Women's Role

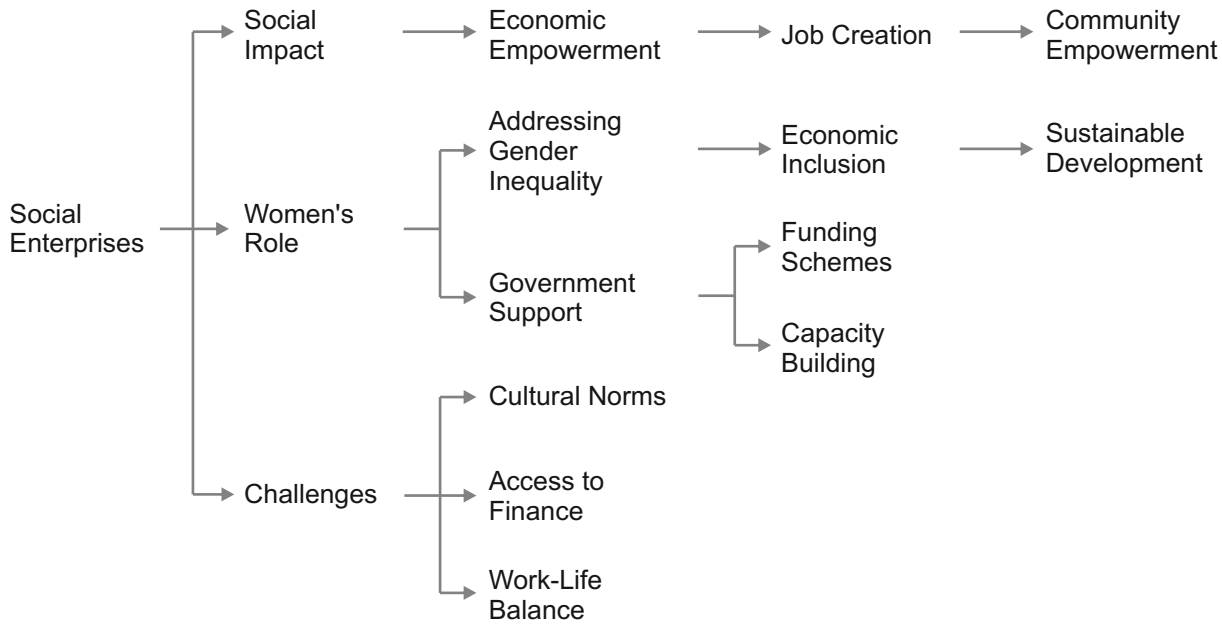


Figure 1

However, apart from various contribution and initiative in order to support women social enterprise by government they still face significant obstacles that limit their scaling, such as restricted social and cultural norms (Roomi & Harrison, 2010) also restricted access to financing (Ahl & Nelson, 2015). A multi-stakeholder strategy including government policies, mentorship programs and other financial incentives is required to overcome these problems (Terjesen, Bosma, & Stam, 2016).Apart from these encouraging elements, women social entrepreneurs nevertheless encounter major challenges that impede their advancement. Women have more challenges to entrepreneurial success than men due to a variety of factors, including limited access to finance, cultural and social problems, gender bias, complex regulations fear of their own safety and hindrance in accessing the markets. Finding a balance between work life and personal life makes these difficulties even worse, since women frequently have to balance traditional duties with their professional objectives (Hasan et al., 2016; Kamberidou, 2020; Afshan et al., 2021; Rahman et al., 2023; Emon et al., 2024). This research seeks to address the existing knowledge gap through conducting a qualitative study of

women entrepreneurs in Rajasthan, a northern Indian state chosen for its vibrant and growing community of female entrepreneurs in different sector. Particularly, this study aims to answer the following research questions:

Rq1. What are the motivational factors for women to become a social entrepreneur?

Rq2. What are the challenges they face as a women social entrepreneur?

The research aims to contribute to existing literature by the following ways. Firstly, this research contributes at a theoretical level by examining the particular motivation and challenges of women-led social enterprise, which will add to the growing body of research on women social enterprises. Secondly, this research has taken four cases of prominent women entrepreneur who are working in a social sector in order to know their challenges and motivation. Finally the research has taken the interview of four women social entrepreneur who are on their initial stage of their enterprise. By combing both the discussion this research has described the main findings and practical limitation for the research.

Literature Review

Entrepreneurship is now becoming more seen as an important part of development, but cultural and social values, affect the way women in India take part in and earn profit from business (Rey-Martí et al., 2016). (Haugh &Talwar (2016) examines the relation between social entrepreneurship and social change and, to get the result, collected data from North India and defines democratic business as social companies as actions that provide more power to women and help to change or transform the social environment in which the women exist. Gupta et al. (2020) described social enterprise as an organization that engaged in business activities for achieving social oriented goals. Tan et al. (2019), examined research on social entrepreneurship, divided findings into four crucial areas, and investigated each area in detail and identified the current gaps in research. The result was that they pointed out the value of further study in a particular field. Bansalet al., (2019) explains the way to emphasize social entrepreneurship's contribution to equitable growth and progress in society and presents the data in the form of descriptive findings and concludes by giving the agenda for future studies in the field. Husain-Talero et al., (2021), examine the role of social entrepreneurs' impact on creating social values, preserving sustainability, and promoting innovation, and they also found important entrepreneur characteristics and evaluated educational techniques to reveal trends that shape the social entrepreneurship environment.

Social Entrepreneur Motivation

According to Agarwal et al. (2021) in the developing nations, social women entrepreneurs are very motivated, and they use fair methods to advertise or promote advancement in society. Yitshaki et al. (2016) observed that social entrepreneurs accept possibilities based on their lived experience, they are motivated by pull factors such as helping others and push factors such as job dissatisfaction that leads to solve society gaps through social business. Another study discovers that family to work support as a mediator to look into how positive motivation affects social entrepreneurship by innovation, and the result shows that the connection is entirely controlled by creativity and boosted by family support (Wijewardena et al., 2023). Humbert et al. (2018) described those women social entrepreneur balance their personal goals with a desire to benefit to the society, but they also prioritizing their self- interest detracts from their economic achievements. In Meleka, Addi, (2019) reveals that a strong drive achievement for them is a moderate inclination towards power as well as a balanced need for affiliation. Meanwhile in case of India Agarwal et al. (2020) describes that the entrepreneurial learning and competencies among them is significantly shaped by a confluence of social, personal and environmental factors.

Social Entrepreneur Challenges

Despite growing opportunities in the sector such as crafts and e-commerce, a number of barriers severely limit women social entrepreneurs in rural Bangladesh. The main barrier that are becoming hindrance in the growth of their entrepreneurial journey has been highlighted by Mridha et al. (2025) that includes family cultural norms, constrictive communal values financial policies and negative attitude of widespread community. One of the major obstacles facing by women social entrepreneurs is the gendered stereotype that shows women as weaker agent. This leads to restricted access to the resources and recognition in comparison to their male counterparts (Muntean et al., 2016). In addition to this the traditional patriarchal customs, colonial remnants, male supremacy and a lack of government assistance are some of the barrier that severely become the hindrance in economic and social advancement of African social women

entrepreneur (Jaiyeola et al., 2021).In case of Thailand the major problems for them are coming in obtaining funding, getting mentorship, establishing networks and enhancing their capabilities as a result of post-Covid-19 (Sukphan et al., 2023).

Discussion

This section explores the case study of eight women who are working in the area of social enterprise. This section has been bifurcated into two parts. The first section has explored the cases of prominent women social entrepreneurs' (Sudha Murty, Pooja Rai, Aditi Awasthi and Naiyaa Saggi) motivation and challenges and also explored the motivation and challenge of other four women who are in the initial stage of their social enterprise.

Narayan Murty and his wife Sudha Murty founded Infosys in 1969, which is an India-based nonprofit organization that works for the activities related to social welfare activities, including education, rural development, health, etc., and they have a special focus on underprivileged groups of India. She grew up in the middle class, and she became India's first female engineering student. She faced many challenges during the journey, like getting finances and meeting the needs of diverse population and she also had to balance family responsibilities during leading her initiatives, but the biggest strength of hers that never made her stop during her journey was her smart moves, teamwork, and commitment that brought positive changes in society and she believes that healthcare and education can change lives for poor and underprivileged communities in India Her empathy, hands-on approach, and strategic partnerships have tackled major social challenges in India (Choudhary, 2024). Her main focus is helping children and women, and her biggest motivation is her strong passion and desire to bring a positive impact to society with this project. Under her leadership, this foundation made a big change in the arts, education, and healthcare sectors and helped to bring more power to villages by providing them better education and better healthcare facilities. Her attention to social problems like sanitation, infrastructure, and healthcare; her dedication and vision is very inspiring to the people within the organization and globally, as well as motivation for other social entrepreneurs (Infinity Learn, 2024; Canada India Foundation, 2023).

Pooja Rai had founded Anthil Creation in 2017 and with the help of young engineers in India that also have the same desire and motive of doing something for the welfare of children and also help in promoting their growth and development by connecting them with nature. They use waste materials and resources from scratch and waste materials. They recycle these materials to make them useful for children, creating safe and fun play areas. This helps promote sustainability and a greener environment. Their mission is to achieve long-term sustainability with the goal of bringing positive changes in children's lives. They also face major challenges in their journey, such as financial issues, obtaining permits and approvals for constructing playscapes for children, and making people aware of limited resources (Wangchuk, 2023). Her motivation that makes her start this non-profit project is her goal and motive to create a safe and healthy place for children where they can also connect with nature and build a sustainable environment by using waste materials and using them for constructing a space for them and focusing on long-term impact to them and the environment as well (Corbley, 2021). With the help of strategies, they successfully overcome the challenges and hurdles that came between her journey, like training people and spreading awareness among the people, and they also try to get support with stakeholders and get in partnership with NGOs and other communities that work with the same motive for getting their back. They also invested in capacity building to empower communities and maintain or sustain the playscapes for the long term through workshops or partnerships with local organizations (MJF, 2022; The Better India, 2023).

Aditi Avasthi is the founder and CEO of Embibe, an artificial intelligence educational technology platform based in Bangalore. Embibe serves as a personalized engine for education, utilizing a knowledge graph that connects curriculum and learning contexts across different grades. The platform aims to help students achieve their targeted learning outcomes, with a particular focus on preparing for exams like the Joint Entrance Examination – Advanced. But like other entrepreneurs, she also faced challenges, but the main challenge that she faced was shifting people's attention from the analytic aspect of education, as many teachers and parents as well consider the internet as a distraction, but it is important for her to make people understand that it's also a very good medium of information, and the

thing that keeps her motivated is the motive of helping as many young people to know their potential and achieve great goals (Avasthi, 2023). Building and running a business requires patience, persistence, and multitasking. Her ability to persevere and multitask contributes to overcoming challenges in the entrepreneurial journey. Aditi Avasthi's journey from overcoming rejection to founding and leading Embibe reflects her determination and commitment to transforming education through technology. Embibe's impact on the education sector, its successful funding rounds, and Avasthi's recognition as an entrepreneur and visionary highlight the positive outcomes of her efforts. The platform's personalized educational services contribute to shaping a more accessible and effective learning environment for students preparing for competitive exams (Economic Times, 2025; Sharma, 2020; Your Story, 2014).

Baby Chakra, founded by Naiyya Saggi and Mitesh Karia in 2014, operates as a comprehensive communication and discovery platform for new mothers. It aims to address the time constraints and need for trust that new mothers often face. The platform provides a community where mothers can share advice, recommendations, and support. Users can access mom-recommended services, connect with other mothers, and interact with a panel of experts in areas such as pediatrics, baby weaning, prenatal, and lactation consulting (Shah, 2020). The major challenges that she faced during her journey were to spread awareness and build trust and credibility within the people; they want users to feel confident in the information, advice, and services provided by the platform. Her motive is to help mothers and provide valuable information that can be useful in their motherhood through articles and advice, and they take help from experts and invite new mothers to share their experiences, their challenges, and everything that they faced in their journey (Balkrishna, 2023).While Baby Chakra primarily supports pregnant women and mothers, it also encourages fathers to be involved. Trust is built through expert contributions, user feedback, and clear communication about sponsored content (Forbes India, 2020).

After reviewing the cases of these four prominent women social entrepreneurs the research finds the main motivation for them were: Passion and dedication to do something for the social welfare, Vision for developing the community and Environment Sustainability. Meanwhile the challenge they faced were financial constraints, Social constraints, lack of awareness. In order to know the more insights about the motivation and challenges, this research also took four interviews of women who are in the initial phase of their social enterprise. To understand the lived experiences of the entrepreneurs, an exploratory qualitative interviewing technique – an inductive and interpretative method – was used (Gioia et al., 2013). The use of a qualitative research methodology is advised to explore the subject matter more thoroughly (Dana and Dana, 2005), particularly in areas with limited knowledge (Dana and Dumez, 2015) and when the researcher and respondents together develop the explanations and descriptions of reality. Four women who are running their business in the social sector also they are in the initial stage of their enterprise from Rajasthan, a northern state of India was specifically chosen as the study's environment, were interviews by the researchers. The demographic detail of these women entrepreneurs has been shown into the table 1.

Table1

ID	Age of WSE	Education	Industry	Age of their Business
WSE1	32	Post-Graduation	Environmental Services	2 Years
WSE2	45	PhD	Fashion & Textile	6.5 months
WSE3	28	Post-Graduation	Health Solutions	3 years
WSE4	37	Post-Graduation	Health Solutions	2.5 Years

Authors Own Work

Further into the discussion, this research has discussed about the challenges expressed by these women in the initial stages of their enterprises, following with their motivation respectively. While their companies function in different fields, for instance, fashion and preventive healthcare, common problems come out of their experiences, like social acceptance, lack of guidance and mentorship, and the issue of work-life balance. Through

their point of view, we get to know the practical challenges that come their way. However, alongside these struggles, their motivations offer a compelling narrative of resilience, innovation, and a vision for community development and appreciation for their work. *"I look around, and there are hardly any women in leadership positions in my field. It's tough when you don't see someone who has walked the path you want to take."* Here, WSE1's words capture the silent struggle of navigating through an industry where familiar faces are very few. When there's no one to turn to for guidance, figuring things out becomes a process of trial and error, which only pulls you away from reaching your goal in time. She conveys that in fields like water conservation, manufacturing, and technology, where women leaders are rare, the journey can feel lonely. Without examples of others who have faced similar challenges and made it through, doubts creep in, and the path ahead feels uncertain and longer as compared to others (Bullough et al., 2015). *"A lot of the people representing us at these conferences have theoretical knowledge but have never actually lived the reality. That disconnect makes a difference in how problems are solved."* - She said.

The conversation around challenges women face in social entrepreneurship usually takes place in spaces where decisions are made by those who haven't personally faced the said struggles; the problem solvers have not lived the experience rather just studied it theoretically or may have practiced as well but the connection of problem and the one who has lived it is completely different from a student's perspective. She further talks about youth participation, *"Even when youth-led programs exist, young women are rarely included in serious discussions. We are invited to attend, not to decide.* "Their insights are acknowledged, but when decisions are being made, they find themselves on the sidelines, watching rather than shaping the policies that directly affect them; the participation feels utterly "performative" rather than being substantive. The social acceptance for them is still a major issue (Jamali, 2009). As WSE2 points out, *"In other industries, you might see in three years and five years, they will make a good turnover. But for us, it might take a bit longer, but people love it if you can communicate your brand message."* She, as an entrepreneur, acknowledges the slower pace of progress, yet maintains a positive outlook as well, focusing on the importance of clear communication and strong marketing to help bridge the gap between consumer demand and the business's growth trajectory (Sharma & Gaur, 2020).

As she further explains, *"They have to handle everything at their home. They have to take care of their children; they have to take care of their family. And then they come and work with us."* There is a dual burden on workers because of which they cannot fully dedicate themselves to the business in the same way that workers without such obligations might. This, in turn, affects the pace at which the business can scale. Yet, despite these challenges, the women involved show remarkable tenacity and determination to carve out a space for themselves (Shastri et al., 2019).WSE3 talks about how Introducing a new habit into people's daily lives is never easy, especially when it involves changing something that is as ingrained as spitting in open spaces. As she further explains, *"the biggest change that we are trying to bring about in our country is for people not to spit in open spaces, to find a safe place to spit in, which is basically a behavioural change."* The process needs to have continuous engagement, education, and reinforcement, as people are often unknown to the fact that an alternative even exists. *"Throwing their oral waste in spittoons is something that we need to make people learn. We need to teach them. We need to tell them that such a product exists,"* she says, pointing to the effort needed to shift orthodox habits. Social change takes time, and patience becomes just as crucial as the innovation in such tasks (Jamali, 2009).

Working in spaces where tradition fixes the norm is a challenge, one that requires a careful balance of persistence as well as adaptability. In industries long dominated by certain expectations, stepping in as an outsider; be it due to a new idea or a different way of thinking, comes with its own set of problems. *"Especially, when I was working in an automotive company, I was the only woman entrepreneur in my area, and interacting with people and making sure that they take us seriously was a huge challenge,"* she shares. In an environments where presence alone is not enough, showing capability often requires going an extra mile. *"You want to be sure that the person takes you as an equivalent to him. That was a huge challenge."* she said. While attitudes are slowly changing; deep-rooted habits take time to evolve. *"I'm working in a manufacturing industry, and still, it is a male-dominant industry, but people have started accepting females,"* she noted, accepting that the progress is gradually happening.

WSE4's mentions, *"Many people are reactive, not proactive, when it comes to their health,"*which speaks to the broader challenge of changing old habits and attitudes. *"As a woman entrepreneur in the preventive healthcare space, I face the challenge of apathy and lack of awareness about the importance of preventive health."* It's not easy to convince individuals to prioritise something they don't fully understand or appreciate even; it is because they don't see the immediate consequences. Moreover, the focus on curative healthcare continues to dominate, making it harder for her cause to stand out in the market. These challenges require a mind-set shift, and that takes time and sustained effort, but she remains committed to it despite the hurdles.

While the challenges outlined above highlight the genuine societal barriers women face in the entrepreneurial world, they do not define their journeys. Each of these entrepreneurs, despite their problems, remained strong to their mission. Their motivations stem from deeply personal experiences, a desire to fill critical gaps in their industries, and a commitment to bring positive change. As we move from discussing their struggles to understanding what makes them motivated, we see how their purpose led approach transforms challenges into opportunities for a greater impact.

In conversation with WSE1 we come to find out that her journey into the "water sector" was never due to commercial intent; it was an organic initiative guided by her lived experiences and minute observations over the years. With a background in environmental studies and nearly a decade of practical experience in the field, she noticed a pattern, particularly in the representation of women and youth. And it wasn't about technical expertise; it was about visibility, influence, and whose voices were being acknowledged in important discussions. *"Even if there are women from the water sector who are representing South Asia on many of these platforms, they are mostly the ones who may have studied the issue or may have had an interest in it, but they might not have necessarily lived through that issue,"* she explained. This disconnects between lived experience and formal representation was stark. It became clear that bridging this gap wasn't something an individual could accomplish alone; it required a collective, organized effort (Humbert & Roomi, 2018;Yamini et al., 2022). Along similar lines is the journey of our second participant; WSE2, her journey into sustainable fashion wasn't only about building a business, but it was about discovering something deeply meaningful via experimentation. When she first came across eco-printing, she was very impressed by the idea that natural elements could be transformed into something beautiful and wearable. However, with no formal institutes to learn this craft, she took matters into her own hands. *"I started, you know, doing my own experiments side by side, and slowly, when I got some results, of course, it was a good motivation,"* she recalls. The process of trial and error wasn't just a means to an end; it became a source of inspiration, reinforcing her belief that sustainability and innovation could coexist. Each experiment, each discovery, brought her closer to mastering a craft that was both environmentally responsible and artistically fulfilling.

But beyond the creative aspect, what truly affirmed her path was the response from her consumers. *"I have good response from my market, I have good response from my consumers, my customers, so they really fall in love with my products,"* she shares. This appreciation wasn't just about aesthetics; it reflected a growing consciousness among consumers who sought quality, eco-friendly alternatives (Shastri at el., 2019). By combining craftsmanship with sustainability, she is not only creating unique, nature-inspired designs but also encouraging people to rethink their consumption habits. And with every new customer who embraces her work, she finds further validation that she is on the right path, one where creativity, sustainability, and consumer appreciation come together seamlessly (Lee, 1996).

But sometimes, finding solutions to everyday problems often begins with recognising what others overlook. During the COVID-19 pandemic, when public spaces emptied, and health concerns dominated conversations; WSE3 and her husband became increasingly aware of a long-standing yet largely ignored issue: public spitting.

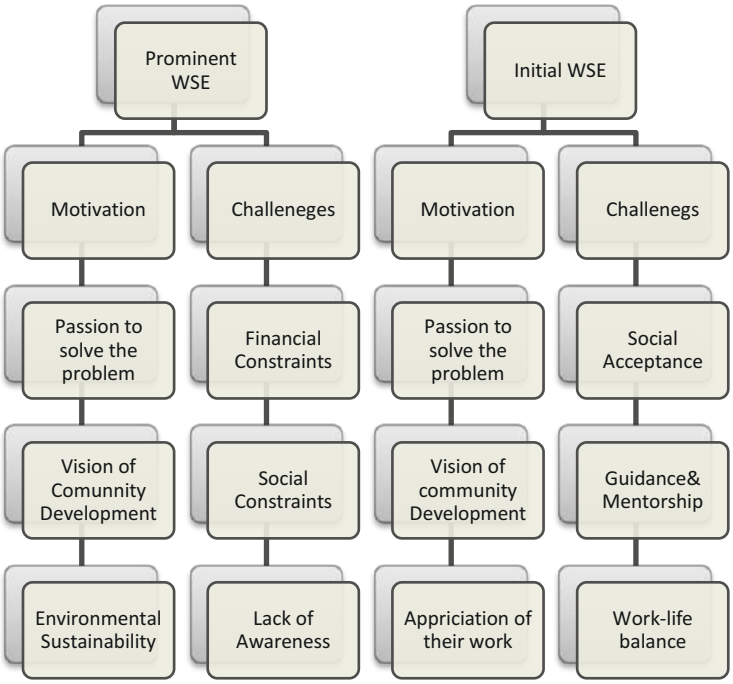
"During the COVID times, when nobody was working, me and my husband, we both realised that there is a very huge issue in our country regarding people spitting in open spaces," she responded. The realisation sparked an idea: what if there was a simple, accessible way for people to spit hygienically and dispose of their waste safely? However, transforming an idea into a tangible solution is never straightforward, especially when it challenges ingrained behaviours (Nair et al., 2014).

Bringing this innovation to life also meant navigating obstacles unique to her journey. With a background in the automotive industry, WSE3 was no stranger to operating in traditionally male-dominated spaces, where expectations and norms often leaned a certain way. Yet, she remained undeterred, driven by the belief that even small, everyday changes could create a lasting impact.

Her journey wasn't just about designing a product – it was about making people pause, reflect, and gradually rethink behaviours that had long been normalised. The process was as much about challenging societal patterns as it was about providing a solution. Keeping in mind that change takes time, moving to WSE4's entrepreneurial journey; which was driven by a desire to create change in society. Early in her career, she saw how businesses could be a force for livelihoods and empowering communities. This realisation powered her belief that entrepreneurship wasn't just about profitability but it could also be a tool for sustainable impact.

As she progressed, her focus shifted toward healthcare & sanitation, where she became increasingly concerned about the prevalence of lifestyle disorders. She recognised a critical gap in how people approached their health, noticing that *"many people are reactive, not proactive, when it comes to their health."* The idea of changing this mind-set, of enabling individuals to take control of their well-being before issues escalated, became her personal mission. She works for a future where preventive healthcare was not an option but a big part of people's lives (Langan-Fox, 1995).

Figure 2



Authors Own Work

Findings and Conclusion

Building on the discussions presented earlier, this section outlines the key findings derived from the analysis. These findings encapsulate the major challenges faced by women social entrepreneurs and the motivations driving them. By synthesizing insights from the discussion, this research highlights the systemic barriers that hinder women's participation in social entrepreneurship and the factors that inspire them to persist despite these challenges. The representation of main themes of motivation and challenges has been displayed in figure 2. In which passion for the social welfare, vision for the development of community and commitment to sustainability drive women towards social enterprise. However they also encounter barriers such as financial constraints, limited mentorship, and social stereotypes and also challenge in managing balance between work and personnel life. In addition to being innovator in the sustainable development for the society, women-led enterprises are the powerful for the economic as well as social transformation. Their enterprises main priority is community driven solutions,

diversity and ethical governance. Stronger policy assistance which should include financial support and mentorship program is required to support them by government in order to solve their challenges as well to motivate them.

References

Addi, J. (2019). Motivation Factors for Women to become An Entrepreneur and Contribute to Social Innovation. Journal of Human Capital Development, 12, 91-106

Afshan, G., Shahid, S., &Tunio, M. N. (2021). Learning experiences of women entrepreneurs amidst COVID-19. International Journal of Gender and Entrepreneurship, 13(2), 162-186

Agarwal, S., Lenka, U., Singh, K., Agrawal, V., & Agrawal, A. (2020). A qualitative approach towards crucial factors for sustainable development of women social entrepreneurship: Indian cases. Journal of Cleaner Production, 274, 123135. https://doi.org/10.1016/j.jclepro.2020.123135

Agrawal, A., Gandhi, P., & Khare, P. (2021). Women empowerment through entrepreneurship: case study of a social entrepreneurial intervention in rural India. International Journal of Organizational Analysis. https://doi.org/10.1108/ijoa-03-2021-2659

Ahl, H., & Nelson, T. (2015). How policy positions women entrepreneurs: A comparative analysis of state discourse in Sweden and the United States. Journal of business venturing, 30(2), 273-291

Avasthi, A. (2023). Meet AditiAvasthi, Trailblazing EdTech Founder Giving Tough Competition to Byju's. News18. Retrieved from https://www.news18.com/business/aditi-avasthi-embibe-edtech-7858981.html

Balkrishna, A. (2023). BabyChakra: Building a community for new mothers. YourStory. Retrieved from https://yourstory.com/2023/01/babychakra-community-new-mothers

Bansal, S., Garg, I., & Sharma, G. (2019). Social Entrepreneurship as a Path for Social Change and Driver of Sustainable Development: A Systematic Review and Research Agenda. Sustainability. https://doi.org/10.3390/SU11041091

Bullough, A., Luque, M., Abdelzaher, D., & Heim, W. (2015). Developing Women Leaders through Entrepreneurship Education and Training. Academy of Management Perspectives, 29, 250-270. https://doi.org/10.5465/AMP.2012.0169

Bullough, A., Renko, M., & Myatt, T. (2014). Danger zone entrepreneurs: The importance of resilience and self–efficacy for entrepreneurial intentions. Entrepreneurship theory and practice, 38(3), 473-499

Canada India Foundation. (2023). SudhaMurty Biography. Retrieved from https://canadaindiafoundation.com/wp-content/uploads/2023/07/Sudha-Murty-Bio.pdf

Choudhary, R. (2024). Many lives of SudhaMurty: Engineer to home maker to writer to philanthropist. Retrieved from https://economictimes.com/news/india/many-lives-of-sudha-murty-engineer-to-home-maker-to-writer-to-philanthropist/articleshow/108333163.cms

Cook, A., & Glass, C. (2018). Women on corporate boards: Do they advance corporate social responsibility?. Human Relations, 71, 897 - 924. https://doi.org/10.1177/0018726717729207

Corbley, J. (2021). Anthill Creations: Bringing childhood back one playground at a time. Kidskintha. Retrieved from https://kidskintha.com/anthill-creations-bring-back-play/

Dana, L.P. and Dana, T.E. (2005), "Expanding the scope of methodologies used in entrepreneurship research", International Journal of Entrepreneurship and Small Business, Vol. 2 Nos 1, pp. 79-88

Dana, L.P. and Dumez, H. (2015), "Qualitative research revisited: epistemology of a comprehensive approach", "International Journal of Entrepreneurship and Small Business", Vol. 26 No. 2, pp. 154-170

Defourny, J., & Nyssens, M. (2010). Conceptions of social enterprise and social entrepreneurship in Europe and the United States: Convergences and divergences. Journal of social entrepreneurship, 1(1), 32-53

Diaz-Sarachaga, J., &Ariza-Montes, A. (2022). The role of social entrepreneurship in the attainment of the sustainable development goals. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2022.07.061

Doherty, B., Haugh, H., & Lyon, F. (2014). Social enterprises as hybrid organizations: A review and research agenda. International journal of management reviews, 16(4), 417-436

Economic Times. (2025). ETPWLA 2019: Embibe founder AditiAvasthi gets 'Accenture Vaahini Innovator of the Year'. Retrieved from https://economictimes.com/news/company/corporate-trends/etpwla-2019-embibe-founder-aditi-avasthi-gets-accenture-vaahini-innovator-of-the-year/videoshow/68636240.cms

Emon, M. H., &Nipa, M. N. (2024). Exploring the Gender Dimension in Entrepreneurship Development: A Systematic Literature Review in the Context of Bangladesh. Westcliff International Journal of Applied Research, 8(1), 34-49

Forbes India. (2020). How Naiyya Saggi built Baby Chakra into a mothers' social network. Retrieved from https://www.forbesindia.com/article/startups/how-naiyya-saggi-built-babychakra-into-a-mothers-social-network/44387/1

Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013), "Seeking qualitative rigor in inductive research: notes on the Gioia methodology", Organizational Research Methods, Vol. 16 Nos 1, pp. 15-31

Hasan, F., & Al-Mubarak, M. (2016). Factors influencing women entrepreneurs' performance in SMEs. World Journal of Entrepreneurship, Management and Sustainable Development, 12, 82-101. https://doi.org/10.1108/WJEMSD-09-2015-0037

Haugh, H., &Talwar, A. (2016). Linking Social Entrepreneurship and Social Change: The Mediating Role of Empowerment. Journal of Business Ethics, 133, 643-658. https://doi.org/10.1007/S10551-014-2449-4

Hoobler, J., Masterson, C., Nkomo, S., & Michel, E. (2018). The Business Case for Women Leaders: Meta-Analysis, Research Critique, and Path Forward. Journal of Management, 44, 2473 - 2499. https://doi.org/10.1177/0149206316628643

Humbert, A., &Roomi, M. (2018). Prone to "care"?. Social Enterprise Journal. https://doi.org/10.1108/SEJ-11-2017-0058

Husain-Talero, S., & Cortés, L. (2021). Social Entrepreneurship. Encyclopedia of Organizational Knowledge, Administration, and Technology. https://doi.org/10.4018/978-1-7998-3473-1.ch097

Infinity Learn. (2024). Sudha Murthy Biography: Co-founder of Infosys, Early Life, and Achievements. Retrieved from https://infinitylearn.com/surge/biography/sudha-murthy-biography/

Jaiyeola, E., &Adeyeye, M. (2021). Obstacles along the path of women enterprises in Africa: A case study of Ogotun women in Ekiti state, Nigeria. Heliyon, 7. https://doi.org/10.1016/j.heliyon.2021.e07593

Jamali, D. (2009). Constraints and opportunities facing women entrepreneurs in developing countries: A relational perspective. Gender in management: an international journal, 24(4), 232-251

Kajiita, R., &Kang'ethe, S. (2021). Creating alternative interventions in social work to promote socio-economic development in South Africa: Lessons from selected social enterprises. International Social Work, 66, 342 - 356. https://doi.org/10.1177/0020872820972463

Kamberidou, I. (2020). "Distinguished" women entrepreneurs in the digital economy and the multitasking whirlpool. Journal of Innovation and Entrepreneurship, 9. https://doi.org/10.1186/s13731-020-0114-y

Kaur, L., &Arora, J. (2022). Women Entrepreneurs and Stand-up India Scheme in Punjab: A critical review. Gyan Management Journal. https://doi.org/10.48165/gmj.2022.16.1.8

Kerlin, J. A. (2013). Defining social enterprise across different contexts: A conceptual framework based on institutional factors. Nonprofit and voluntary sector quarterly, 42(1), 84-108

Langan-Fox, J., & Roth, S. (1995). Achievement motivation and female entrepreneurs. Journal of Occupational and Organizational Psychology, 68, 209-218. https://doi.org/10.1111/J.2044-8325.1995.TB00582.X

Lee, J. (1996). The motivation of women entrepreneurs in Singapore. Women in Management Review, 11, 18-29. https://doi.org/10.1108/09649429610112574

Marlow, S., &Swail, J. (2014). Gender, risk and finance: why can't a woman be more like a man?. Entrepreneurship & Regional Development, 26(1-2), 80-96

MJF. (2022). Playgrounds for marginalized children - MJF. Retrieved from https://mjf.world/mjf-fellows/playgrounds-for-marginalized-children/

Mridha, Md. R., Sara, S. S., Hossain, M. M., Haque, Md. M., & Islam, M. N. (2025). Challenges and Prospects of Young Women Entrepreneurs in Rural Bangladesh: A Study on Socio-Cultural Perspective. Contemporary Research Analysis Journal.,02(01). https://doi.org/10.55677/craj/04-2025-vol02i01

Muntean, S. C., & Ozkazanc-Pan, B. (2016). Feminist perspectives on social entrepreneurship: critique and new directions. International Journal of Gender and Entrepreneurship, 8(3), 221–241. https://doi.org/10.1108/IJGE-10-2014-0034

Nair, P., &Gakhar, P. (2014). Women entrepreneurship: Finding voice and vision. IOSR Journal of Business and Management, 16(1), 95–100. https://doi.org/10.9790/487x-161695100

Ndwiga, M., Ondieki-Mwaura, F., & Karugu, W. (2017). Impact of Participation in Microfinance on Women Empowerment : Evidence from the Women Enterprise Fund Beneficiaries in Nairobi County , Kenya

Nicholls, A. (2010). The legitimacy of social entrepreneurship: Reflexive isomorphism in a pre–paradigmatic field. Entrepreneurship theory and practice, 34(4), 611-633

Pathak, S., Goltz, S., & W. Buche, M. (2013). Influences of gendered institutions on women's entry into entrepreneurship. International Journal of Entrepreneurial Behaviour & Research, 19(5), 478-502

Powell, M., Gillett, A., & Doherty, B. (2019). Sustainability in social enterprise: hybrid organizing in public services. Public Management Review, 21, 159 - 186. https://doi.org/10.1080/14719037.2018.1438504

Rahman, M. M., Dana, L. P., Moral, I. H., Anjum, N., & Rahaman, M. S. (2023). Challenges of rural women entrepreneurs in Bangladesh to survive their family entrepreneurship: a narrative inquiry through storytelling. Journal of Family Business Management, 13(3), 645-664

Raman, R., Subramaniam, N., Nair, V., Shivdas, A., Achuthan, K., &Nedungadi, P. (2022). Women Entrepreneurship and

Sustainable Development: Bibliometric Analysis and Emerging Research Trends. Sustainability. https://doi.org/10.3390/su14159160

Rey-Martí, A., Ribeiro-Soriano, D., & Sánchez-García, J. (2016). Giving back to society: Job creation through social entrepreneurship. Journal of Business Research, 69, 2067-2072. https://doi.org/10.1016/J.JBUSRES.2015.12.010

Roomi, M. A., & Harrison, P. (2010). Behind the veil: women-only entrepreneurship training in Pakistan. International Journal of Gender and entrepreneurship, 2(2), 150-172

Shah, R. (2020). The journey of BabyChakra: Empowering mothers through community support. TechCircle. Retrieved from https://www.techcircle.in/2020/06/15/the-journey-of-babychakra-empowering-mothers-through-community-support

Sharma, A. (2020). From failing to crack IIT to assisting aspirants, Aditi Avasthi's ed-tech startup Embibe is all about helping students. Our Own Startup. Retrieved from https://ourownstartup.com/aditi-avasthis-reliance-backed-ed-tech-startup-jio-embibe-is-all-about-helping-students-get-closer-to-their-dream-colleges/

Shastri, S., Shastri, S., &Pareek, A. (2019). Motivations and challenges of women entrepreneurs. International Journal of Sociology and Social Policy, 39(5/6), 338–355. https://doi.org/10.1108/ijssp-09-2018-0146

Sukphan, J., & Satjasomboon, S. (2023). Challenges of Young Female Social Entrepreneurs in Post-Covid 19: A Case Study of Mueang Pon, Mae Hong Son, Thailand. Rajabhat Chiang Mai Research Journal. https://doi.org/10.57260/rcmrj.2023.264701

Tan, L., Le, A., &Xuân, L. (2019). A Systematic Literature Review on Social Entrepreneurial Intention. Journal of Social Entrepreneurship, 11, 241 - 256. https://doi.org/10.1080/19420676.2019.1640770

Teasdale, S. (2012). What's in a name? Making sense of social enterprise discourses. Public policy and administration, 27(2), 99-119

Terjesen, S., Bosma, N., & Stam, E. (2016). Advancing public policy for high-growth, female, and social entrepreneurs. Public Administration Review, 76(2), 230-239

The Better India. (2023). Play, learn, grow, repeat: A peak inside India's DIY, sustainable playgrounds. Retrieved from https://thebetterindia.com/324494/playgrounds-for-children-in-india-learning-early-childhood-growth-education-anthill-creations/

Wangchuk, T. (2023). Bengaluru non-profit builds play spaces from scrap. Citizen Matters. Retrieved from https://citizenmatters.in/childs-play-making-it-more-accessible/

Wijewardena, N., Samaratunge, R., Kumara, A., & Newman, A. (2023). With the help of the family! Using Sri Lankan informal sector women entrepreneurs' family resources to develop their creative self-efficacy. Women's Studies International Forum. https://doi.org/10.1016/j.wsif.2023.102699

Yamini, R., Soloveva, D., &Peng, X. (2022). What inspires Social Entrepreneurship? the role of prosocial motivation, intrinsic motivation, and gender in forming social entrepreneurial intention. Entrepreneurship Research Journal, 12(2), 71–105. https://doi.org/10.1515/erj-2019-0129

Yitshaki, R., &Kropp, F. (2016). Motivations and Opportunity Recognition of Social Entrepreneurs. Journal of Small Business Management, 54, 546 - 565. https://doi.org/10.1111/jsbm.12157

Your Story. (2014). Meet Aditi Avasthi, 'Chief Embiber', who founded Embibe in 2012. Retrieved from https://yourstory.com/2014/11/aditi-avasthi-embibe

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Effect of CIBIL on Non-Performing Assets due to Financial Shenanigans

Abstract

The research aims to investigate and explore the complex interaction between monetary shenanigans, characterized by misleading monetary hones, and the precision of credit scoring models. As money related shenanigans can mutilate the data utilized in credit evaluation looks for to disentangle the degree of their impact on credit on credit scoring results and the ensuring suggestions for banks, borrowers, and large budgetary environment. Through a comprehensive investigation of real-world cases, bookkeeping irregularities, and credit scoring strategies. Also, it will investigate potential roads for improving the flexibility of credit scoring models against the affect for monetary shenanigans. Credit scoring system have completely changes the lending landscape by giving lenders effective tools for managing credit risk and determining borrower creditworthiness. This study looks at how credit scoring affects financial institutions' handling of non-performing assets (NPAs). Utilizing extant literature, empirical investigations, and industry protocols, the study investigates the ways in which credit scoring influences NPA management tactics and results. Through the evaluation of borrower credit histories, payment patterns, and financial profiles, credit scoring helps lenders make informed judgments about terms, pricing, and loan approvals based on hard data. By systematically assessing borrower creditworthiness, lenders are likely to give credit to high-risk borrowers, which lessen the possibility of nonperforming assets (NPAs).

Sumitra Singh [1] **Dr. Arpan Parashar** [2]

Keywords: *CIBIL, NPA, Credit Scoring, Financial Shenanigans.*

Introduction

In the dynamic environment of lending and credit evaluation, the phenomenon of borrower fraud has become a pressing concern for financial institutions and organizations. Credit Information Bureau of India Limited (CIBIL), India's leading credit bureau plays key role in collecting and analyzing credit-related information to create relevant credit scores. However, the majority of scams, ranging for theft to loan fraud, have raised questions about the accuracy and reliability of CIBIL scores. This study aims to uncover the many factors that impact the credit reporting process and financial institutions by examining various types of fraud committed by borrowers, including misrepresentation of financial information, credit fraud and other fraudulent activities.

In the financial sector, especially banking and lending, NPA represents non-performing assets. In relation to loans, advances or loans received from financial institutions that do not generate income (interest) or repay according to the terms of the loan agreement. Generally, an asset is classified as nonperforming if the borrower fails to make interest or payment on time (usually 90 days or more). If a person or business defaults on a loan or line of credit, causing the account to be classified as NPA by the lender, this information will appear on the credit report. Defaults and overdue assets can negatively impact a person's CIBIL score and hence led to difficulty in getting loans in the future.

In short, CIBIL does not directly track or process NPAs but has information on repayments and credit reports that can help. Lenders identify non-performing assets. Credit score information allows financial institutions to evaluate the overall health and composition of credit portfolios. By analyzing credit quality, default rate, and risk, lenders can optimize market segmentation and allocation decision. Effective portfolio analysis helps in identifying emerging risks

[1] Research Scholar, Banasthali Vidyapith, Tonk, Rajasthan, author can be contacted at sumitrasingh1919@gmail.com
[2] Assistant Professor, Banasthali Vidyapith, Tonk, Rajasthan

and vulnerabilities, enabling risk management and asset allocation to minimize NPA risk.

CIBIL in Managing NPAs

Reducing non-performing assets (NPAs) through credit scoring involves using credit information to assess the risk of borrowers and make informed lending decisions. A number of strategies can be employed to use credit scores effectively for reducing NPAs. First, a thorough credit evaluation is essential, as the credit score is the key tool used in evaluating the creditworthiness of a borrower. A higher CIBIL score depicts a lower risk of default, but for a comprehensive evaluation it is important to supplement the credit score with components such as income stability, leverage of the individual, and other financial indicators. Second, financial institutions can set a minimum credit score requirement as criteria for loan approval, which helps weed out borrowers with poor credit histories who are at higher risk of defaulting on their loans. Third, risk-based pricing can be adopted, where the rate of interest and tenure of the loan are adjusted depending on the borrower's credit score and risk profile, ensuring that high-risk borrowers are offered loans at higher interest rates to reduce the probability of default.

Fourth, lenders should regularly monitor borrowers' credit profiles to detect signs of financial difficulties or credit deterioration, as identifying potential problems early allows proactive measures such as loan restructuring or providing financial advice to prevent defaults and reduce NPAs. Fifth, automation of credit decisions can be implemented, where systems consider credit scores along with other relevant factors to optimize the lending process, thereby ensuring consistent, objective decision-making while minimizing the potential for human error. Sixth, providing financial education and counseling services to borrowers is important, as it helps them better understand loan management and financial responsibility, making it more likely that they will make informed decisions and maintain a healthy credit profile. Seventh, diversification of the loan portfolio across industries, sectors, and borrower profiles reduces concentration risk, since spreading lending activities across different areas minimizes the impact of economic downturns or sector-specific problems.

Finally, developing active debt collection strategies helps resolve delinquent accounts quickly, and using credit score data to prioritize collection efforts and tailor approaches according to a borrower's creditworthiness and repayment ability makes the process more efficient. By leveraging CIBIL scores and combining them with sound risk management practices such as these, financial institutions can significantly reduce the risk of NPAs and ensure the maintenance of a strong and healthy loan portfolio.

Literature Review

Sood and Bhushan (2022)in their study explained about growth experienced in Indian Banking sector and change since the liberalization of the market in 1990-1991, various recommendations have been made to reduce fraud in the Indian banking sector in the future. The central bank of India i.e. RBI is the prime minister of the financial institution and has made the necessary efforts to keep a close eye on it. Unnecessary financial fraud creates serious problems for government and financial regulators. Problems are also increasing in the areas of ethics, financial pressure and corporate governance. This study examines bank fraud data identified by the Central Police Commission to understand the problem of fraud in various businesses, financial instruments used to commit fraud and mismanagement in the banking sector. A detailed analysis of all actors involved in the promotion, management and control of financial activities, indirectly or directly, was carried out using interview-based methods as well as secondary data (materials and methods of analysis).

Jayadev and Padma (2020) elucidate in their study a preliminary analysis of quarterly data on defaulters released by Credit Information Bureau of India Limited (CIBIL) from June 2023 to March 2016. Most of the complainants are private limited companies that are not listed and whose funds come from the government focused on banks and specific areas. The debtors have become irrelevant due to the use of poor governance, such as the poor performance of the country's economy, law and politics. This study shows the acceptance of hypothesis that illegal lending often results from poor country governance. Banks must use transaction data obtained from the payment system and cooperate with various investigative agencies, such as the Income Tax department, Revenue Intelligence, Central Economic Intelligence Bureau, Enforcement Directorate (ED) and Special Fraud Investigation Office (SFIO). Organizations should investigate irregularities in financial markets such as money laundering, tax evasion and evasion, and other suspicious financial transactions.

Banks can use the information in action to reduce loans. Information sharing between lenders reduces bas choices and moral hazard, thus increasing lending and reducing defaulter rates.

Tiwari (2020)studied in the paper about Prepaid loans (PSL) from scheduled commercial banks have emerged as an important policy tool for accounting in India. According to PSL standards, companies are planned to receive loans or advances for major activities such as agriculture, small business, education, retail and export businesses. Non-performing assets (NPA) refer to loans, advances and loans that cannot be recovered. This study aims to examine the causes of non-performing assets related to outstanding loans of selected business companies from the perspective of selected business companies. This article is based on a survey of 89 SCB banks in Rewari, Gurugram, Faridabad, Rohtak, Jhajjar, Bhiwani, Kurukshetra, Panchkula and Chandigarh, Hisar and Charkhi Dadri district of Haryana. A survey was created as a research tool and given to PSL participating banks. Two types of surveys were designed to investigate the causes of NPA in PSL and the recommendation of the studied commercial banks to reduce NPAs in PSL.

Mishra and Pawaskar (2017) elucidate that banks face a range of risks, including credit, liquidity, interest, market, operational, and management risks, as they drive expansion. The significant risks are debt recovery and non-performing assets (NPAs). Decreasing non-performing assets, market, operational, and management risk as they drive expansion. The significant risks are debt recovery and non-performing assets (NPAs). Decreasing non-performing assets (NPAs) indicates that banks, their credit evaluation systems, while increasing NPAs requires provision that lower overall profitability. The banking sector of India is dealing with a major problem of non-performing assets.

Jayakkodi and Rengarajan (2016)elucidates that the economic growth is influences majorly by banking business. A powerful banking sector is crucial for a healthy economic condition. Weak banking operations in economy might have a negative impact on overall economic condition. Non-performing assets are serious risk for Indian banks. Non-performing assets (NPAs) represents bank performance and presence of non-performing assets(NPAs) significantly impact banks earning and profitability. A high level of non-performing assets (NPAs) indicates a high number of credit defaults, negatively impacting bank's profitability and net value. Public sector banks do not perform as good as private sector banks in terms of non-performing assets. The analysis is based on secondary data from the respective banks annual reports. The study focuses on non-performing assets in public and private sector banks. The data was examined using statistical tool such as ratio and correlations. This research indicates that private sector banks are more efficient than public sector banks. The research analysis states that the efficiency with which public and private sector banks manage NPAs and evaluate their impact on profitability and Return on Assets.

Pervez *et al.* (2023) elucidate the influence of capital adequacy and risk on the performance of Indian banks while controlling for bank-specific factors, ownership, banking laws, financial events, and macroeconomic variables. Panel regression technique was used to assess the performance of 65 commercial banks in the Indian banking sector with three different ownership structures: private, public, and foreign over a 14 year period from 2005 to 2018. The capital adequacy ratio was found to be negative related to bank performance. Net non performing assets harmed bank's profitability and productivity. The sudden growth in non-performing assets had an impact on both landing capacity and banks profitability.

Bhasin and Rajesh (2022) elucidate the significant dangers that Indian banks face, as well as the many reasons for the rise in NPAs and bank fraud. The study goes on to discuss how newly developing digital banking capabilities, together with enhanced landing / risk management skills can be used to control and mitigate risk in order to overcome NPA and fraud issues. Indian banks must tighten internal control related to pre and post-loan sanctioning, such as credit evaluation and credit monitoring, using advanced technology, data analytic and MIS reports. Bank staff should get ongoing training and skill development, as both landing and technology require expertise to make decisions and manage risks.

Kumar and Kar (2022)elucidate the profits management strategies of Indian commercial and public sector banks using the second digit test, which is one of the key Benford law test. The data of different variables is taken: interest revenue, other income, interest expenses, deposits and borrowings and advances from fourteen commercial banks and seventeen public sector banks

between Q1 2005 and Q4 2018. Deposits are the most misreported financial figure for private banks, whilst loans and advances are the most misrepresented by public sector banks. Overall, public sector banks appear to be more prone to rounding up then private sector banks. The study also investigated probable links between financial shenanigans and a CEO's tenure nearing its end and found evidence to support this claim.

Shaji (2019) explored in the study about the best indicator of a company's health is its level of non-performing assets (NPA). From an overall perspective, NPAs will impact the performance of financial institutions and the growth of our economy. When the NPA level decreases, this usually gives the impression that the bank has been doing well for many years while when the increase in NPA level indicates, the need for more assistance, which reduces the bank's profitability. Public companies in India face serious problems where politics is also prevalent. Efficiency and effectiveness in the financial sector will reduce the NPA level in India. The study aims to understand the concept of device failure and the main reasons for the development of device failures. It also focuses on the use of intelligence to maintain and manage non-performing assets of schedule to companies in India, thereby potentially managing the growth of non-performing assets in India.

Das and Rawat (2018) attempts to understand the current NPA problem by analyzing the role of SCBs (lenders, especially PSBs) and corporate companies (lenders) in the above problem. In general, it is seen that there may be two main problems on the back side that can explain the current NPA problem. These are inconsistencies in banking and management. From the borrower's perspective, it is observed that the companies as a whole are unlikely to go through the process of being unable to pay the loan. Except for some businesses with equal balances, other companies have lower loans than allowed. Therefore, the idea that the financial report of companies without a balance sheet looks weak does not mean that it is wrong to give credit. This can also be evidenced by the increase in the number of deliberate errors in recent years. The increase in defaults shows that the loans taken by banks are not used in accordance with the borrower's purpose. Increasing uncertainty means increasing uncertainty regarding loans received from banks, which means that there will be no interruptions between bank employees or managers and lenders.

Sharma and Parasar (2015) studies the Non-Performing Assets (NPAs) are a major challenge facing the Indian economy. The accumulation of non-functional equipment creates a burden and hinders the growth of the economy. Financial institutions are struggling with non performing loans and their profits are greatly affected. The aim of this study is to identify key points in the history of mortgage loans and to develop models that will help financial institutions detect and distinguish potential loan defaults legal and illegal persons. The nature and identification of defaulters help in reducing NPAs of financial institutions. Managers and loan officer can used this model to provide loans to certified borrowers as well as target existing customers.

Padhy and Sahoo (2020) elucidate in the study about non-performing assets are biggest problem for banks in leading countries in Asia and around the world. It shows the performance of banks and the growth of the economy. Overall, the decline in NPAs points to concern about commercial banks that have recently strengthened and their credibility. The expansion in NPAs includes necessary provisions to ensure the functioning of banks and ensure capital appreciation. The banking sector in India as a whole is facing a serious "non-performing assets (NPA)" problem, especially the public sector, which has high potential pressure to develop all the resources and benefits of banks. Therefore, it is necessary to reduce and control product failure. This is study focuses on the technology available to manage non-performing assets and keep banks away from the next problem of "Non-Performing Assets (NPA)".

Naveenan *et. al.* (2019) attempts to know the usefulness of prevailing ways of combating existing NPAs and the impact of measures to control the situation of new NPAs. Losses and reduced profits and liabilities of financial institutions and non-performing loans (NPA) depends on how many risks are managed in their business. A long-term solution to the problem of non-performing assets can only be achieved through proper credit assessment and risk management procedures. It is best to prevent the emergence of Non-Performing Assets during the commercial period of the joint venture by establishing a strict and appropriate financial assessment. The statistical tool used is the Friedman test: The Friedman test is a non-parametric test. It is used to measure the difference between the groups in cases where the difference due to measurement is normal.

Mohanty and Kumar (2016)Explains in the study that the Non-Performing Assets are the biggest problem

faced by the banks in major countries in Asia and even the world. It shows the performance of banks and the growth of the economy. Overall, the decline in NPAs points to recent concerns that are improving the corporate sector and their credibility. Expansion of non-performing assets includes those necessary to secure the bank's performance and investment interests. The Indian banking sector as a whole is facing a serious problem of "non-performing asset (NPA)" and the public sector in particular is facing serious pressure from growing companies on overall capital and liquidity. Therefore, it is necessary to reduce and control product failure. The study focuses on technologies that can be used to manage non-performing assets and keep banks away from the next "non-performing asset (NPA)" crisis.

Study Objectives

The problem statement aims to investigate and analyze the relationship between CIBIL and Non-Performing Assets (NPAs) within the banking sector. CIBIL, as a credit information bureau, plays a crucial role in assessing the creditworthiness of borrowers. However, there is a need to understand how CIBIL's data and credit scoring mechanisms influence the occurrence and management of NPAs in financial institutions. By addressing these components and research objectives, the study aims to contribute to a deeper understanding of the relationship between CIBIL and Non-Performing Assets, thereby informing stakeholders about potential measures to improve credit risk management and financial stability in the banking sector.

1. To study the effect of financial shenanigans on CIBIL.
2. To study the NPA management with the help of CIBIL.
3. To analyze the correlation between CIBIL scores and the incidence of Non-Performing Assets in the banking sector.
4. To assess the effectiveness of NPA management strategies in mitigating credit risk and preserving the financial stability of banks.

Research Methodology

The paper is focusing on analyzing the impact of credit score to reduce the occurrence of Non-Performing Asset as higher credit score is more likely to reduce the chances of NPAs. The study elucidates the role of credit scoring in enhancing the accuracy and objectivity of managing Non-performing assets. By analyzing borrower credit histories, payment behavior, and financial profiles, credit scoring enables lenders to make data-driven decisions regarding loan approvals, pricing, and terms. The systematic evaluation of borrower creditworthiness reduces the likelihood of extending credit to high-risk individuals, thereby mitigating the incidence of NPAs. This study is exploratory and therefore data was collected from previous studies. Research materials were obtained from secondary sources including publications of the Reserve Bank of India, annual reports of banks, research articles, Scopus journals and newspapers, books and magazines.

Findings

CIBIL score, or Credit Information Bureau (India) Limited score, is a credit score used in India to assess an individual's creditworthiness. It ranges from 300 to 900, with higher scores indicating better creditworthiness. The occurrence of Non-Performing Assets (NPA) in the banking sector generally correlates with borrowers who have defaulted on their loans. While there's no fixed CIBIL score that directly indicates the occurrence of NPA, a lower CIBIL score can be indicative of higher credit risk and a greater likelihood of default. Here's a general guide to understanding CIBIL scores and their implications drawn for NPA risk assessment:

Excellent (750 and above): Individuals with scores in this range are likely to have a strong credit history and are generally considered low risk for default.

Good (700 - 749): Borrowers falling within this range are also considered low risk, but they might not qualify for the best interest rates or credit terms.

Fair (650 - 699): Scores in this range may indicate some credit risk. Lenders might scrutinize applications more closely and offer less favorable terms.

Poor (600 - 649): Borrowers in this range are considered higher risk, and they may face difficulties in obtaining credit or loans. Interest rates offered may be higher, and credit limits may be lower.

Bad (below 600): Individuals with scores below 600 are considered high risk, and they may struggle to obtain credit or loans from traditional lenders. They may need to look for alternative sources of financing or work on improving their creditworthiness.

Credit worthiness	Cibil score levels	Predicted Risk of NPA
Excellent	750 and above	Risk free
Good	700 – 749	Low Risk
Fair	650 – 699	Moderate Risk
Poor	600 – 649	High Risky
Bad	below 600	Extremely Risky

While there's no specific CIBIL score that directly indicates the occurrence of NPA, lenders typically assess multiple factors, including credit score, repayment history, income stability, and debt-to-income ratio, to determine the creditworthiness of borrowers and assess the risk of NPA occurrence. A lower CIBIL score, particularly in the fair to poor range, may increase the likelihood of default and NPA occurrence if borrowers are unable to meet their loan obligations.

Impact of NPA on CIBIL score

NPA (Non-Performing Assets) has a huge impact on one's CIBIL (Credit Information Bureau of India Limited) score and creditworthiness. When a loan turns into a non-performing asset, it means that the borrower's money has not been repaid for a long time, and these irregular activities are reported to credit agencies like CIBIL, leading to a decrease in the borrower's credit score. Bad credit information can also negatively affect the borrower's credit history, as banks and financial institutions carefully check a person's credit record before approving a new loan application, and histories of distressed properties make it difficult for someone to obtain new loans in the future. Because of poor credit scores, people may also face limited access to credit, including loans and credit cards, and even if they manage to get loan approval, the terms and conditions such as interest rates and credit limits may not be favorable. Individuals with NPAs often face higher interest rates if they manage to get a loan, as lenders view them as higher-risk borrowers and adjust interest rates accordingly to minimize capital loss. Troubled assets are partly related to financial credit as they not only affect the credit score but also damage the creditor's reputation, and ongoing defaults and NPAs may even lead to legal action by lenders while adversely affecting the overall financial health of the borrower. In summary, NPAs can significantly affect an individual's CIBIL score and financial well-being, making it important for borrowers to manage their debt responsibly and ensure timely repayments are made to keep the loan in good standing.

Conclusion

The findings of this study are expected to provide insights into the role of CIBIL scores in predicting the likelihood of loans becoming NPAs within banking institutions. By understanding the impact of credit scores on loan performance, banking institutions can enhance their credit risk assessment processes and develop targeted strategies for mitigating NPA risks.Secondly, this article exams the effectiveness of credit scores in early warning detection and risk mitigation. Credit scoring models help identify borrowers who show signs of financial distress or potential default. Using predictive analytics and risk segmentation technology, financial institutions can intervene to prevent loans from turning into non-performing assets. Early detection can help reduce debt and preserve asset quality by allowing intervention plans such as loan refinancing, repayment assistant and better maintenance.

This article discusses the impact of credit scores on

compliance monitoring and risk management with the help of CIBIL score levels. Regulators are increasing the importance of adopting affective credit risk management systems including the use of credit scoring models to ensure the stability and strength of financial institutions. In summary credit score plays an important role in NPL management by improving credit risk assessment, allowing early warning improving business management and creating the management system. By using good credit standards, financial institutions can reduce the risk of asset failure maintain asset quality, promote sustainable landing in a business cycle environment.In summary, while credit scores can provide insights into the creditworthiness of borrowers, they are not the sole determinants of the possibility of loans becoming NPAs. Lenders use a variety of factors to assess risk and make lending decisions.

Reference

Sood, P., & Bhushan, P. (2022). Factors impacting banking frauds in India: a conceptual framework. International Journal of Business and Globalisation, 31(4), 500-519

Jayadev, M., & Padma, N. (2020). Wilful defaulters of Indian banks: A first cut analysis. IIMB Management Review, 32(2), 129-142

Tiwari, S. Causes and Cure of NPAs in Priority Sector Lending: A Study of Commercial Banks. Haryana School of Business, 51

Mishra, U. M., & Pawaskar, J. R. (2017). A study of non-performing assets and its impact on banking sector. Journal for Research, 3(1)

Jayakkodi, D., & Rengarajan, P. (2016). Impact of non-performing assets on return on assets of public and private sector banks in India. International Journal of Applied Research, 2(9), 696-702

Pervez, A., Naveenan, R. V., Alyamoor, A. H., Bansal, R., Gupta, A., & Titus, T. J. (2023, November). Impact of capital adequacy and risk on bank performance: An empirical study. In AIP Conference Proceedings (Vol. 2587, No. 1). AIP Publishing

Bhasin, N. K., & Rajesh, A. (2022). The role of emerging banking technologies for risk management and mitigation to reduce non-performing assets and bank Frauds in the Indian Banking System. International Journal of e-Collaboration (IJeC), 18(1), 1-25

Kumar, V. P., & Kar, S. (2022). Financial reporting quality of private and public banks in India. Afro-Asian Journal of Finance and Accounting, 12(6), 712-729

Shaji, A. K. (2019). A study on the management of Non-Performing Assets in the Banking Sector using Artificial Intelligence. Think India Journal, 22(14), 12168-12179

Das, S. K., & Rawat, P. S. (2018). Understanding NPAs in Indian Banks

Sharma, A., & Parasar, A. (2020). A study on loan approval and non‐performing asset – Segment identification. Journal of Public Affairs, 20(2), e2015

Padhy, M. S., & Sahoo, D. R. An Analysis on "Non-Performing Assets Management of Selected Scheduled Commercial Banks Using Artificial Intelligence". Dogo Rangsang Research Journal, 10

Naveenan, R. V., Levi, S., & Merlyn, S. (2019). Effectiveness of NPA control measures in managing loan assets in banks. SCHOLEDGE Int J Bus Policy Gov, 6(7), 57-69.

Mohanty, A., & Kumar, P. (2015). Non-performing Assets in Buyers' and Lenders' Perspective in Educational Loans. Al-Barkaat Journal of Finance & Management, 7(2), 10-23.

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Exploring the Impact of Artificial Intelligence (AI) on Business Performance

Abstract

The rapid advancement of Artificial Intelligence (AI) in business processes presents both exciting opportunities and significant ethical challenges. This research delves into the impact of AI automation on various stakeholders, including workers, businesses, society, and governments. While AI offers immense potential to improve efficiency, innovation, and profitability, ethical considerations surrounding its implementation require careful attention. Potential concerns include job displacement, disruption of social contracts, and biased decision-making by AI algorithms. This paper analyses these concerns and proposes a framework for ethical AI implementation. The framework emphasizes responsible data use, transparency in algorithmic decision-making, and accountability for AI systems. Additionally, best practices for mitigating the negative impacts of AI automation are identified. These best practices include retraining programs for displaced workers, responsible data collection by businesses, and effective AI regulation by policymakers. By implementing these actions, we can harness the power of AI for the benefit of all stakeholders and ensure a future where technological advancements contribute to a more equitable and prosperous society. This research aims to explore the ethical implications of AI automation in businesses. It will analyse how AI impacts workers, businesses, society, and governments. The focus will be on potential issues like job displacement, disruption of social contracts, and biased AI decisions.

Dr. Simmi Rani Prasad [1]

Keywords: *Artificial Intelligence (AI), Business Processes, Ethical Challenges, AI Automation, Stakeholders, Innovation: Transparency.*

Introduction

Artificial Intelligence (AI) has emerged as a transformative force across various industries, driving innovation, efficiency, and economic growth. AI technologies are being increasingly integrated into different sectors, revolutionizing traditional business operations and setting new industry standards. The cumulative global AI revenue forecast from 2016 to 2025 highlights the immense economic impact AI is set to have across different use cases. The exponential growth of AI applications underscores the rapid digital transformation that businesses, governments, and individuals are experiencing worldwide.

AI-driven technologies have found applications in diverse fields such as healthcare, finance, cybersecurity, transportation, and human resource management. As organizations seek to enhance efficiency and streamline processes, AI adoption has accelerated, leading to increased investments in AI research and development. This study aims to examine the projected revenue across key AI applications, identifying trends, areas of significant growth, and potential challenges. Additionally, this report will provide recommendations for businesses and policymakers to optimize AI implementation and leverage its benefits effectively.

Literature Review

Artificial Intelligence (AI) is increasingly recognized as a transformative force in business, influencing various aspects of digital transformation, firm performance, competitive positioning, and financial management. The following studies provide insight into the diverse ways AI is shaping modern business strategies.

[1] Associate Professor, St. Francis Institute of Management and Research, Borivali, Mumbai 400103.

Perifanis and Kitsios (2023) argue that AI is not merely a passing trend but a revolution that can drive digital transformation when strategically integrated into business operations. AI should be perceived as a fundamental force rather than a singular tool, enabling businesses to create new forms of value and maintain a competitive advantage in an evolving digital landscape.

Wamba-Taguimdje et al. (2020) emphasize AI's transformative role across different business functions, extending beyond mere automation. The study highlights AI's potential to enhance financial performance, marketing reach, and operational efficiency while fostering effective human-computer collaboration. However, successful AI integration requires businesses to adapt their structures and operational frameworks.

Ali Mohamad et al. (2023) examines the impact of AI in healthcare, particularly through robotic surgery. Their research, based on a case study of a multinational medical facility in Dubai, suggests that AI-driven surgical interventions can lead to technological advancements, improved clinical outcomes, and financial benefits. Nonetheless, they acknowledge limitations and call for further research to solidify AI's role in healthcare.

Yang et al. (2024) explore AI's role in corporate digital strategies in China. Analyzing data from 3,602 firms, they find a strong positive correlation between AI investment and digital transformation. However, state-owned enterprises (SOEs) exhibit weaker improvements compared to private firms, suggesting that organizational factors beyond AI adoption influence digital transformation effectiveness.

Jain (2023) provides a broader perspective on AI's impact on business, highlighting benefits such as increased productivity, cost reductions, and enhanced decision-making. However, the study also identifies key challenges, including security risks, ethical concerns, and job displacement. The research underscores the need for collaboration between businesses, policymakers, and stakeholders to ensure responsible AI integration.

Hidayat et al. (2024) examine AI's growing influence in financial management, particularly within the banking sector. AI applications in risk assessment, customer service, and decision optimization demonstrate significant benefits such as improved forecasting and risk management. However, data security, ethical considerations, and regulatory challenges remain significant hurdles to effective AI implementation.

Kulkov (2023) investigates AI's role in pharmaceutical business transformation. Small firms primarily use AI in research and development, whereas larger companies implement AI in manufacturing, sales, and marketing. The study suggests that AI can enhance productivity and innovation, but implementation challenges persist. The authors recommend targeted AI training programs to prepare professionals for AI-driven industry shifts.

Dirican (2023) introduces the concept of the "Space Economy" to describe the evolving business landscape influenced by AI and robotics. The study suggests that AI will impact nearly all business functions, creating new job opportunities in high-tech fields while displacing low-skilled workers.

To adapt, governments, educational institutions, and businesses must develop new policies, curricula, and business models.

Wright and Schultz (2023) focus on the ethical implications of AI-driven automation. While AI can enhance productivity, it also raises concerns about job displacement, economic disruption, and unequal benefits distribution. The authors advocate for an ethical framework based on social contract theory to ensure that AI's advantages are equitably shared among all stakeholders from the surgical team. Their findings suggest AI in robotic surgery can lead to a trifecta of benefits: technological advancements (potentially more precise instruments), improved clinical outcomes (enhanced patient safety through AI-assisted procedures), and financial advantages (potentially reduced costs due to shorter surgery times and faster recovery). This research not only highlights the potential of AI in robotic surgery but also paves the way for a deeper understanding of how AI can propel healthcare companies forward in the competitive landscape. However, the study acknowledges limitations and proposes areas for further investigation, inviting future research to solidify the understanding of AI's role in shaping the future of healthcare.

Study Objectives

Artificial Intelligence (AI) has emerged as a transformative force in contemporary business landscapes, driving operational efficiencies, innovation, and competitive advantage. However, its integration also

raises critical questions regarding ethical responsibility, societal impact, and long-term sustainability. Against this backdrop, the present study analyses the following objectives to examine the multifaceted implications of AI adoption for businesses, policymakers, and global markets.

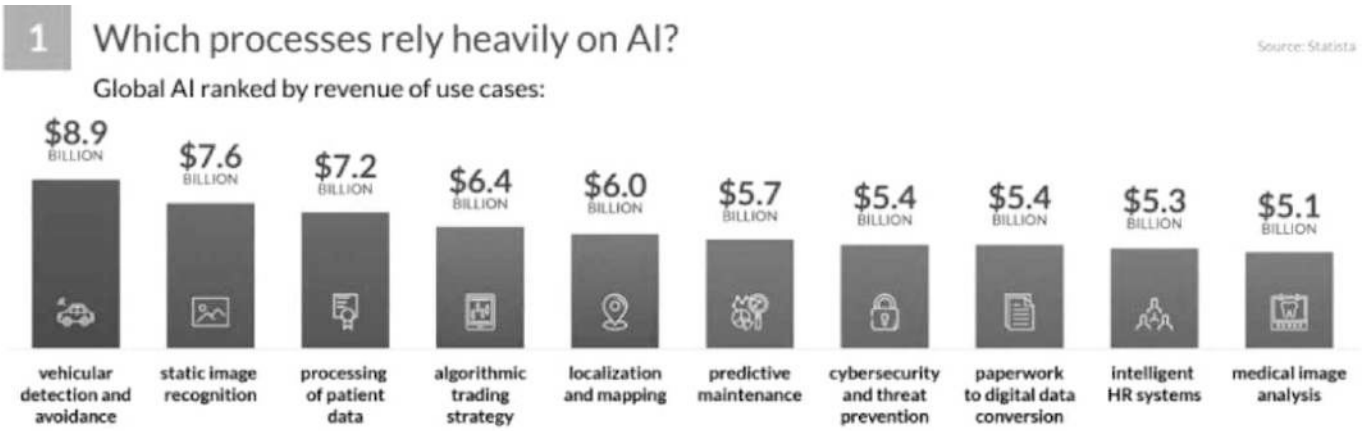
- To examine the major AI applications driving business performance and their revenue-generating potential across industries.
- To analyze the broader implications of AI adoption for organizations, industries, and economies at a global level.
- To investigate the ethical risks and challenges of AI deployment, including bias, transparency, and workforce displacement.
- To propose responsible strategies and policy measures that enable businesses and governments to optimize AI benefits while mitigating associated risks.
- To explore the emerging trajectory of AI applications and their long-term impact on global business and market dynamics.

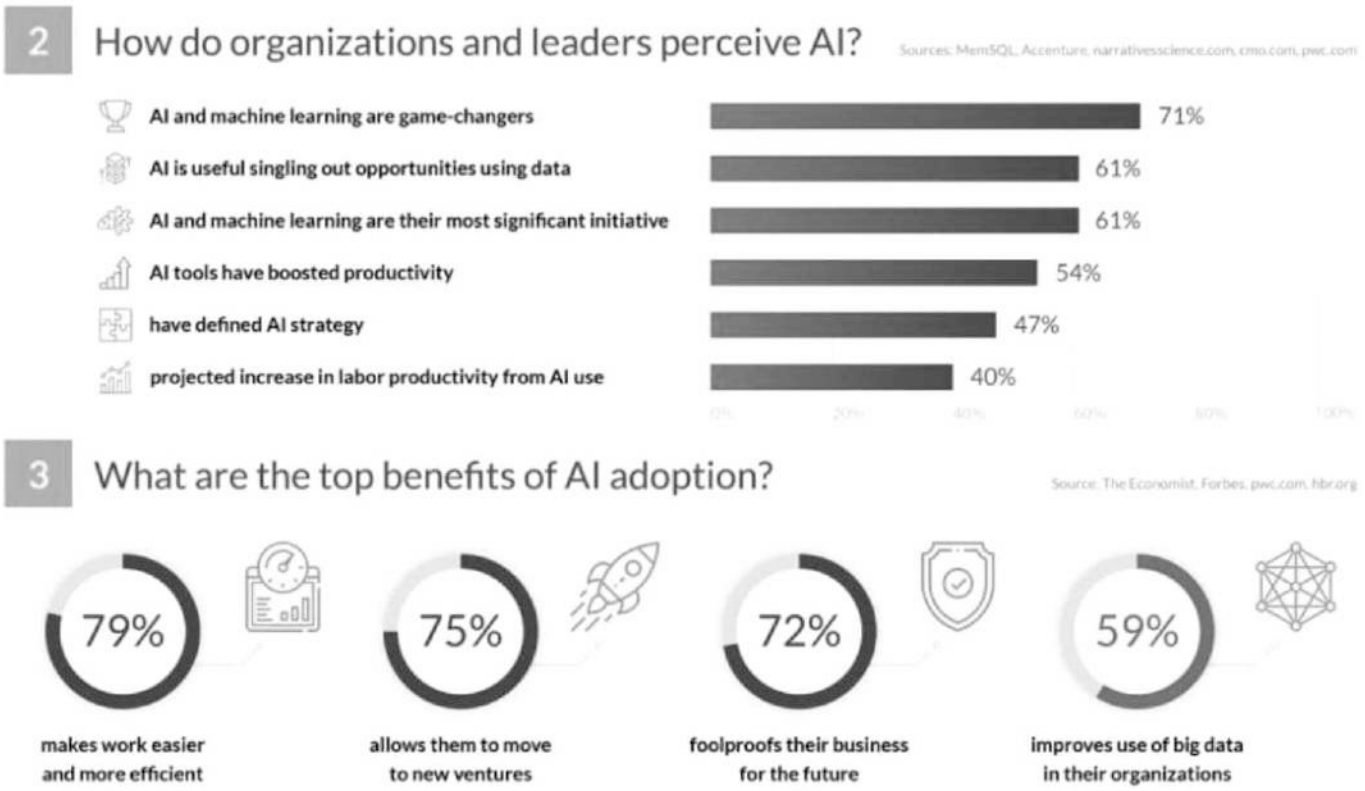
Research Methodology

This research study is based on secondary data analysis from authoritative sources, including Statista, market research firms, and industry reports. The research employs a comparative study of AI revenue forecasts across multiple applications and industries. Data analysis incorporates descriptive and inferential statistical methods to identify patterns, trends, and projections. Additionally, qualitative insights were gathered from expert opinions, industry case studies, and academic literature to contextualize the numerical data. By combining quantitative and qualitative research methodologies, this study provides a holistic view of AI's economic impact and future prospects. Ethical considerations, regulatory challenges, and potential disruptions are also analyzed to provide a comprehensive assessment of AI's role in shaping industries.

Data Analysis and Interpretations

Artificial Intelligence (AI) has emerged as one of the most transformative technologies of the 21st century, reshaping industries and economies worldwide. Once regarded as a futuristic concept confined to science fiction, AI now drives innovation, enhances efficiency, and creates new avenues for value creation across virtually every sector of the global economy. AI-powered applications—including machine learning (ML), natural language processing (NLP), robotics, and computer vision—have moved from experimental pilots to mainstream adoption, influencing business performance at scale (Brynjolfsson & McAfee, 2017). Reports by the McKinsey Global Institute estimate that AI could contribute up to $13 trillion to global GDP by 2030, underscoring its revenue-generating potential and its centrality to global competitiveness (McKinsey Global Institute, 2018).





Source: https://theappsolutions.com/blog/machine-learning/enterprise_artificial_intelligence/

Yet, while AI's adoption generates significant opportunities, it also brings new ethical, social, and regulatory challenges. Questions of workforce displacement, data privacy, algorithmic bias, and systemic risks require careful consideration by both businesses and policymakers (Davenport & Ronanki, 2018). This paper explores the impact of AI on business performance by examining its leading applications, analyzing ethical and societal implications, and outlining strategies for responsible integration. In doing so, it positions AI not simply as a technological enhancement but as a strategic driver that must be managed thoughtfully for sustainable, inclusive growth.

Autonomous Vehicles and Intelligent Transportation

One of the most visible and commercially significant AI applications lies in **machine and vehicular direction, identification, and avoidance**, valued at $8.98 billion. Autonomous vehicles (AVs), supported by AI-driven navigation and collision-avoidance systems, are redefining the transportation sector. By enabling safer mobility, reducing traffic accidents, and optimizing fuel efficiency, these technologies promise substantial social and economic gains (Litman, 2020). Global automotive manufacturers and technology companies such as Tesla, Waymo, and Baidu continue to make large-scale investments in autonomous systems. Beyond individual mobility, AVs hold the potential to transform logistics and freight operations. Automated trucking fleets could reduce shipping costs and enhance supply chain reliability. However, their widespread adoption raises critical ethical issues – particularly around accountability in case of accidents and the displacement of millions of professional drivers (Heaven, 2020). These risks underscore the necessity of robust policy frameworks to balance innovation with public safety and employment concerns.

Image Recognition and Classification

AI-based **static image recognition, classification, and tagging** represents another fast-growing domain, generating revenues of $7.64 billion globally. Applications range from marketing personalization in e-commerce to fraud detection in financial services and advanced diagnostics in healthcare. Social media platforms and online retailers leverage computer vision to optimize customer engagement by tailoring recommendations and advertisements (McKinsey Global Institute, 2018). Healthcare systems increasingly rely on AI image recognition for medical diagnostics, including

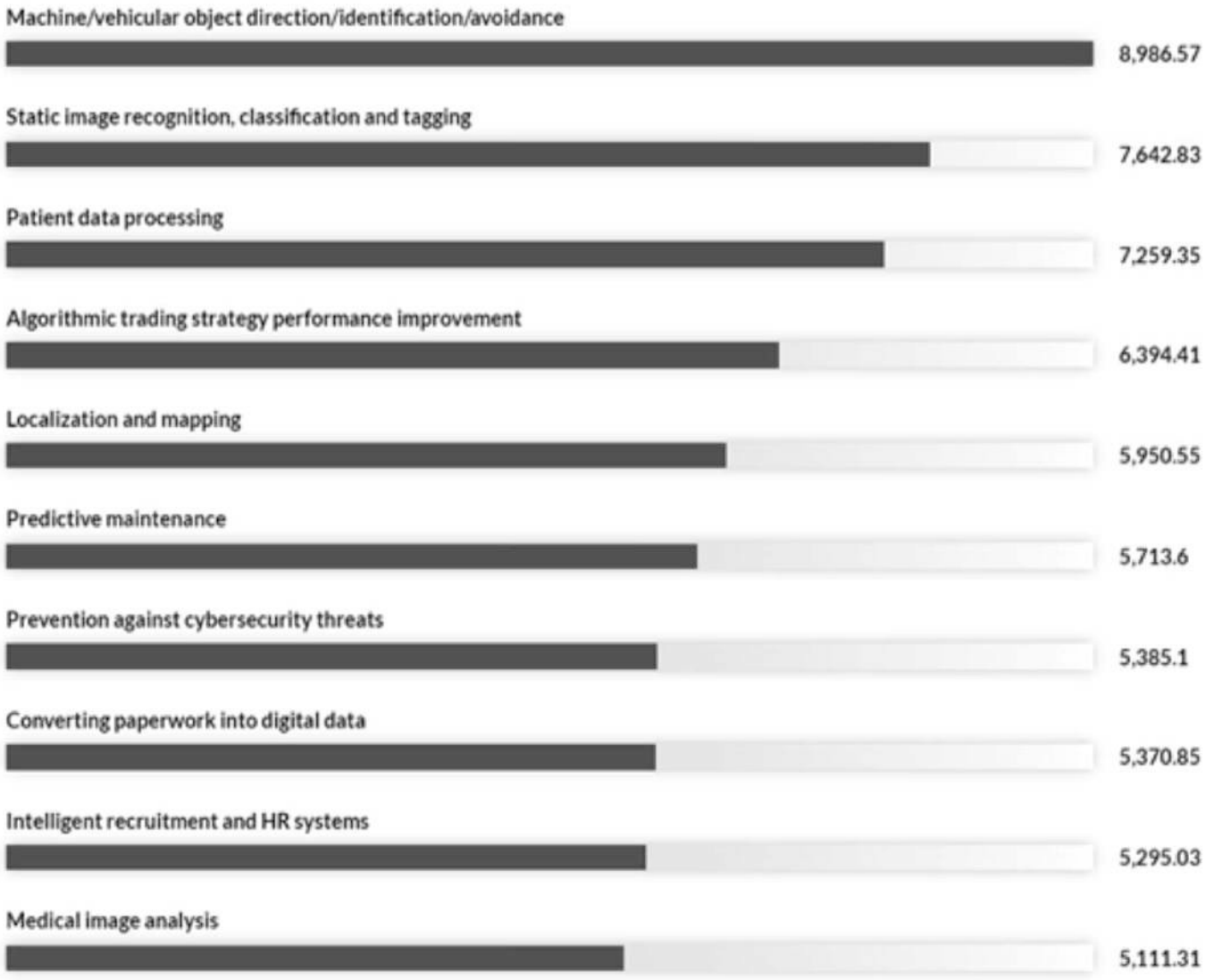
tumor detection and pathology classification, enhancing both accuracy and speed (Esteva et al., 2017). Despite these benefits, the use of facial recognition and biometric tracking has raised profound ethical concerns regarding privacy, surveillance, and potential bias (O'Neil, 2016). Addressing these issues requires stringent safeguards and transparent oversight mechanisms.

Patient Data Processing

AI-enabled **patient data processing**, with a market value of $7.26 billion, exemplifies the transformative potential of technology in healthcare systems. Electronic Health Records (EHRs) enhanced with AI support predictive analytics, early diagnosis, and personalized treatment recommendations, thereby improving patient outcomes and reducing administrative inefficiencies (Topol, 2019). Predictive models can identify individuals at high risk for chronic conditions, enabling preventive interventions and cost savings. However, these systems also present vulnerabilities. Data breaches involving sensitive health information not only compromise individual privacy but also erode public trust in healthcare institutions (Shrestha et al., 2019). Ethical governance of patient data, including informed consent, anonymization, and secure storage, is therefore critical to sustaining the legitimacy of AI-enabled healthcare solutions.

Cumulative Global AI Revenue Forecast 2016-2025

Ranked by use case (in millions of dollars)



Source: https://scoop.market.us/artificial-intelligence-statistics/

Algorithmic Trading and Financial Innovation

In the financial sector, algorithmic trading powered by AI – valued at $6.39 billion – has transformed investment practices. AI-driven models analyze massive datasets, detect profitable opportunities, and execute trades with unmatched precision and speed, enabling hedge funds and institutional investors to gain a competitive edge (Chui, Manyika, & Miremadi, 2018). Robo-advisory platforms also extend these capabilities to retail investors, democratizing access to financial expertise. Nonetheless, algorithmic trading introduces risks of systemic instability. Flash crashes and sudden volatility, often triggered by automated trading algorithms, reveal vulnerabilities that could undermine investor confidence (Johnson, 2019). To mitigate such risks, regulators must enforce greater transparency in algorithmic strategies and establish mechanisms to monitor AI-driven market activities.

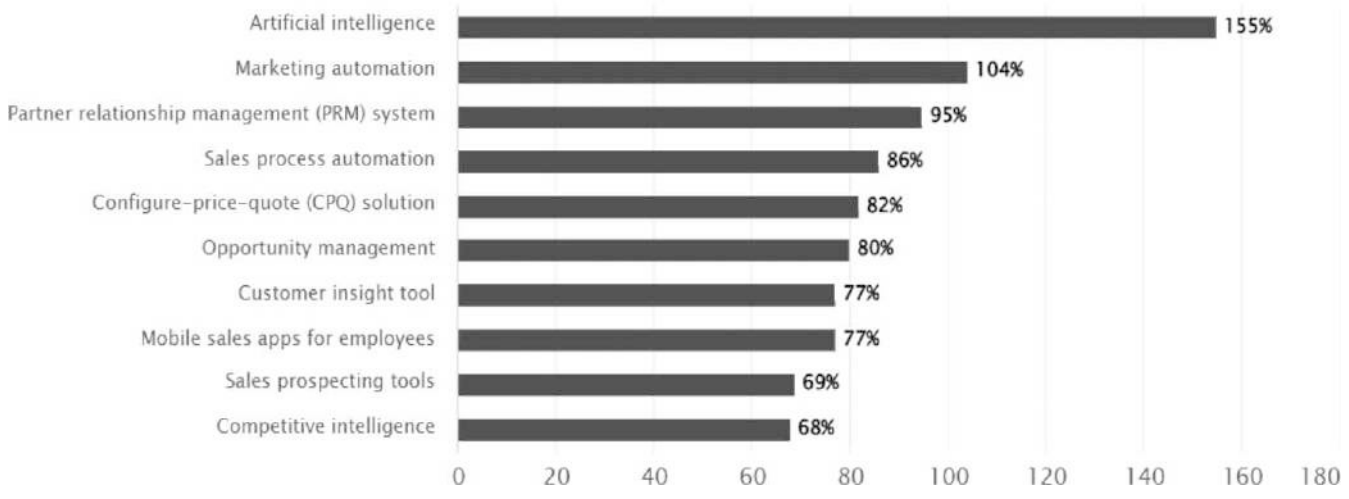
Localization, Mapping, and Geospatial Analytics

The domain of localization and mapping ($5.95 billion) underpins AI-powered geospatial analytics, essential for navigation systems, logistics optimization, and urban planning. Businesses ranging from ride-sharing services to last-mile delivery companies rely on AI mapping technologies to enhance operational efficiency and customer satisfaction (Goodchild & Li, 2021). Autonomous drones also depend on these systems for safe navigation in sectors such as defense, agriculture, and e-commerce. Yet, the collection and analysis of geospatial data present pressing ethical challenges. Concerns regarding surveillance, data ownership, and individual privacy have intensified as corporations and governments expand the use of location-tracking systems (Crawford, 2021). As such, geospatial AI requires regulatory frameworks that balance efficiency with civil liberties.

Predictive Maintenance and Industrial Efficiency

AI-driven predictive maintenance, valued at $5.71 billion, is reshaping manufacturing, aviation, and energy sectors by reducing downtime and operational costs. Real-time monitoring systems use AI to forecast equipment failures, extend asset lifecycles, and optimize resource allocation (Bughin et al., 2018). These capabilities directly contribute to business performance by boosting productivity and reliability. Nevertheless, predictive maintenance may displace traditional maintenance roles, particularly among lower-skilled workers. Addressing this disruption requires proactive workforce retraining initiatives to ensure that employees adapt to evolving technological demands (World Economic Forum, 2020).

10 Sales Technologies with the Highest Projected Two-Year Growth



Source: https://radixweb.com/blog/artificial-intelligence-statistics

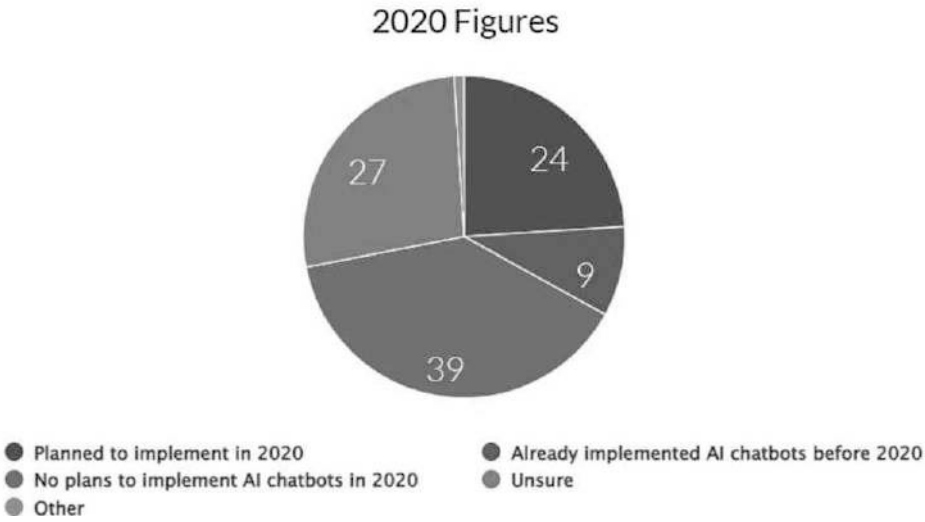
Cybersecurity and Threat Prevention

In an era of escalating digital threats, AI-enhanced cybersecurity solutions ($5.38 billion) are critical for safeguarding businesses. Machine learning algorithms detect anomalies, neutralize malware, and prevent breaches in real-time, strengthening enterprise resilience (Taddeo & Floridi, 2018). AI-powered intrusion detection systems also allow organizations to respond proactively rather than reactively. However, the same AI technologies that defend systems can be weaponized by malicious actors to launch more sophisticated cyberattacks. This dual-use dilemma necessitates international collaboration and continuous innovation to maintain a secure digital ecosystem.

Administrative Automation and Digitization

The automation of paperwork into digital data ($5.37 billion) reflects AI's capacity to streamline administrative functions. Tools such as Optical Character Recognition (OCR) and NLP enable seamless digitization, reducing manual workloads and enhancing organizational efficiency (Davenport, Guha, Grewal, & Bressgott, 2020). Although digitization fosters productivity, it also raises questions about data integrity, compliance, and the displacement of clerical workers. Thus, organizations must balance efficiency gains with responsible workforce management strategies.

AI Chatbots Implementation: How Global Ecommerce Companies Fare

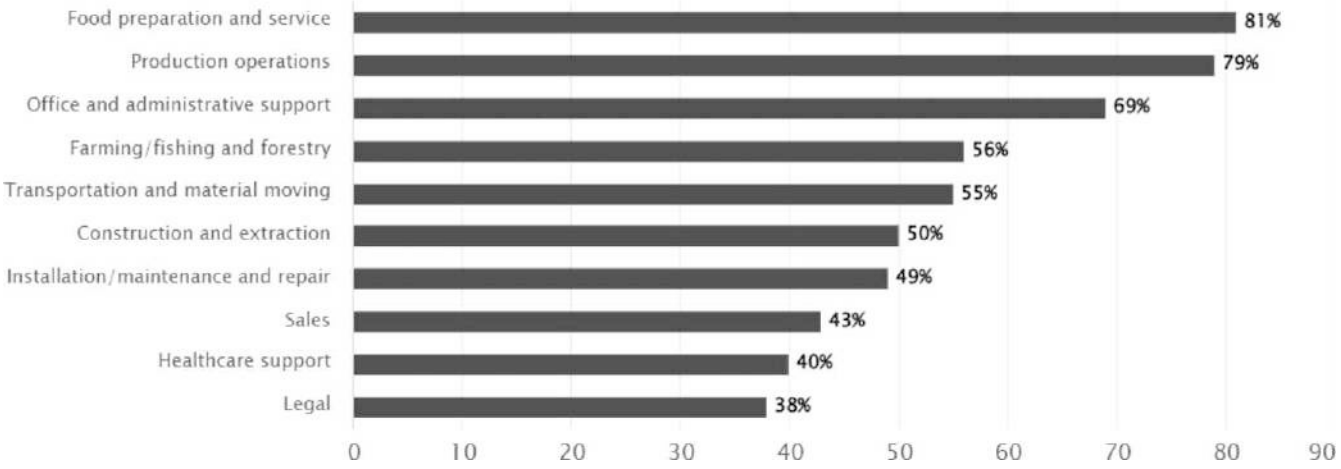


Source: https://scoop.market.us/artificial-intelligence-statistics/

Human Resources and Workforce Analytics

AI's role in intelligent recruitment and HR systems ($5.29 billion) highlights its growing influence on talent management. These tools analyze candidate data, match skills with organizational needs, and predict employee performance, thereby streamlining recruitment and retention processes (Upadhyay & Khandelwal, 2018). However, biases embedded in training datasets can perpetuate systemic discrimination, disadvantaging certain demographic groups (Barocas & Selbst, 2016). Ensuring fairness and transparency in AI-driven HR practices is therefore vital to maintaining equitable employment systems.

Jobs that are most at Risk of Automation

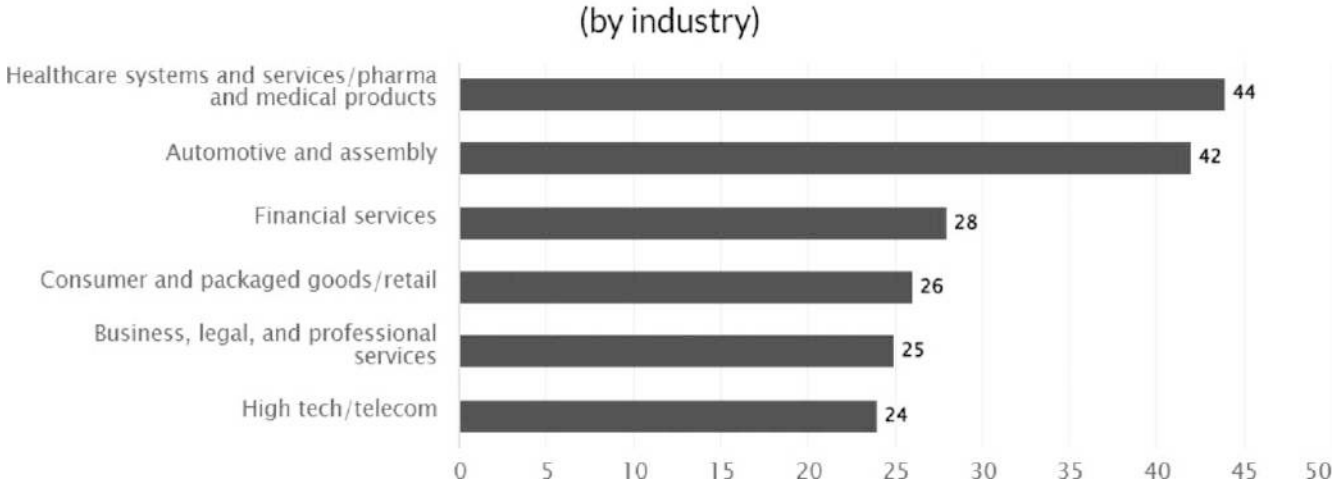


Source: https://www.linkedin.com/business/talent/blog/talent-strategy/jobs-most-likely-to-be-automated

Medical Imaging and Diagnostics

Finally, medical image analysis ($5.11 billion) illustrates the profound impact of AI in healthcare. By enhancing radiology, pathology, and dermatology diagnostics, AI improves early detection, reduces diagnostic errors, and accelerates treatment planning (Esteva et al., 2017). These advancements not only improve patient care but also generate cost savings for healthcare systems. Nonetheless, the reliance on AI for life-critical decisions raises ethical concerns regarding accountability and trust. Clear regulatory standards must govern the use of AI in medical contexts to ensure reliability and equitable access.

Average Increase in AI Across Business Functions because of COVID-19 Pandemic



Source: https://scoop.market.us/artificial-intelligence-statistics/

Study Limitation

This research provides a broad analysis of AI's impact but has several limitations. It does not deeply explore industry-specific challenges and relies on the accuracy of existing data sources, which may not fully capture AI's evolving landscape. Additionally, while risks are highlighted, unforeseen positive applications receive less focus. Regulatory and ethical considerations are acknowledged at a high level but lack detailed exploration. Furthermore, while best practices are identified, deeper analysis of solutions like retraining programs and responsible data collection is needed. Future research should examine human-AI collaboration, trust, and alignment with societal values to ensure ethical and beneficial AI integration.

Strategic Implications and Future Trajectories

For businesses, AI represents not just a technological upgrade but a strategic imperative. Firms that successfully integrate AI gain competitive advantages through cost efficiency, product innovation, and customer engagement. Policymakers, meanwhile, must craft balanced regulations that foster innovation while addressing risks such as bias, cybersecurity, and employment disruption. Looking ahead, AI's trajectory suggests even greater integration into global markets. Emerging applications in quantum computing, climate modeling, and personalized medicine promise to reshape industries in unprecedented ways. However, without deliberate efforts to address ethical risks, these advancements may exacerbate inequalities and undermine trust.

Conclusion

AI stands at the frontier of business transformation, offering unparalleled opportunities to enhance performance, innovation, and revenue growth across industries. From autonomous vehicles and predictive maintenance to medical diagnostics and cybersecurity, AI applications have demonstrated measurable contributions to organizational efficiency and global economic value. Yet, these benefits are inseparable from ethical and social challenges ranging from workforce displacement and algorithmic bias to privacy and accountability concerns. Ultimately, AI must be approached as both a strategic enabler and a societal responsibility. Businesses, policymakers, and global institutions must collaborate to ensure transparency, fairness, and inclusivity in AI deployment. By adopting responsible strategies such as workforce reskilling, ethical data practices, and regulatory oversight stakeholders can harness AI not only as a driver of profitability but also as a catalyst for equitable and sustainable development.

Acknowledgement

This paper builds upon the research work presented at IES MCRC's IRC-2025, incorporating further analysis, expanded discussions, and deeper insights.

References

Ali Mohamad, T., Bastone, A., Bernhard, F., & Schiavone, F. (2023). How artificial intelligence impacts the competitive position of healthcare organizations

Barocas, S., & Selbst, A. D. (2016). Big data's disparate impact. California Law Review, 104(3), 671–732. https://doi.org/10.2139/ssrn.2477899

Brynjolfsson, E., & McAfee, A. (2017). Machine, platform, crowd: Harnessing our digital future. W. W. Norton & Company

Bughin, J., Seong, J., Manyika, J., Chui, M., & Joshi, R. (2018). Notes from the AI frontier: Modeling the impact of AI on the world economy. McKinsey Global Institute. https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-modeling-the-impact-of-ai-on-the-world-economy

Chui, M., Manyika, J., & Miremadi, M. (2018). What AI can and can't do (yet) for your business. McKinsey Quarterly. https://www.mckinsey.com/capabilities/quantumblack/our-insights/what-ai-can-and-cant-do-yet-for-your-business

Crawford, K. (2021). The Atlas of AI: Power, politics, and the planetary costs of artificial intelligence. Yale University Press

Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. Harvard Business Review, 96(1), 108–116

Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. Journal of the Academy of Marketing Science, 48(1), 24–42. https://doi.org/10.1007/s11747-019-00696-0

Dirican, C. (2023). The impacts of robotics, artificial intelligence on business and economics

E. (2020). Influence of artificial intelligence (AI) on firm performance: The business value of AI- based transformation projects

Esteva, A., Kuprel, B., Novoa, R. A., Ko, J., Swetter, S. M., Blau, H. M., & Thrun, S. (2017). Dermatologist-level classification of skin cancer with deep neural networks. Nature, 542(7639), 115–118. https://doi.org/10.1038/nature21056

Goodchild, M. F., & Li, W. (2021). Replication across space and time must be weak in the social and environmental sciences. Proceedings of the National Academy of Sciences, 118(35), e2015759118. https://doi.org/10.1073/pnas.2015759118

Heaven, W. D. (2020, October 21). Driverless cars are stuck in a jam. MIT Technology Review. https://www.technologyreview.com/2020/10/21/1010809/driverless-cars-are-stuck-in-a-jam/

Hidayat, M., Defitri, S., & Hilman, H. (2024). The impact of artificial intelligence (AI) on financial management. Management Studies and Business Journal

Jain, R. (2023). The impact of artificial intelligence on business: Opportunities and challenges

Johnson, N. F. (2019). Financial market complexity: What physics can tell us about market behaviour. Oxford University Press.

Kulkov, I. (2023). The role of artificial intelligence in business transformation: A case of pharmaceutical companies. Technology in Society

Litman, T. (2020). Autonomous vehicle implementation predictions: Implications for transport planning. Victoria Transport Policy Institute. https://www.vtpi.org/avip.pdf

McKinsey Global Institute. (2018). Notes from the AI frontier: Insights from hundreds of use cases. McKinsey & Company. https://www.mckinsey.com/capabilities/mckinsey-analytics/our-insights/notes-from-the-ai-frontier-applications-and-value-of-deep-learning

O'Neil, C. (2016). Weapons of math destruction: How big data increases inequality and threatens democracy. Crown

Perifanis, N.-A., & Kitsios, F. (2023). Investigating the influence of artificial intelligence on business value in the digital era of strategy: A literature review. Information

Procedia - Social and Behavioral Sciences

Shrestha, Y. R., Ben-Menahem, S. M., & Krogh, G. V. (2019). Organizational decision-making structures in the age of artificial intelligence. California Management Review, 61(4), 66–83. https://doi.org/10.1177/0008125619862257

Taddeo, M., & Floridi, L. (2018). How AI can be a force for good. Science, 361(6404), 751–752. https://doi.org/10.1126/science.aat5991

Topol, E. (2019). Deep medicine: How artificial intelligence can make healthcare human again. Basic Books.

Upadhyay, A. K., & Khandelwal, K. (2018). Applying artificial intelligence: Implications for recruitment. Strategic HR Review, 17(5), 255–258. https://doi.org/10.1108/SHR-04-2018-0031

Wamba-Taguimdje, S.-L., Fosso Wamba, S., Kala Kamdjoug, J. R., & Tchatchouang Wanko, C

World Economic Forum. (2020). The future of jobs report 2020. World Economic Forum. https://www.weforum.org/reports/the-future-of-jobs-report-2020

Wright, S. A., & Schultz, A. E. (2023). The rising tide of artificial intelligence and business automation: Developing an ethical framework. Business Horizons

Yang, S., Hussain, M., Ammar Zahid, R. M., & Maqsood, U. S. (2024). The role of artificial intelligence in corporate digital strategies: Evidence from China

IES MCRC
VALUE ADDITION THROUGH EDUCATION

Reviving Heritage, Sustaining Futures: A Case Study of Khaki Tours in Mumbai

Case Synopsis

Khaki Tours has grown into one of Mumbai's most influential heritage-led social enterprises, celebrated for its meticulously researched and engaging portfolio of more than 60 heritage walks. Each walk reveals a unique layer of Mumbai's history, its architecture, communities, forgotten figures, and cultural traditions transforming nostalgia into civic engagement. Through its blend of immersive storytelling Khaki has repositioned urban heritage as a living, participatory experience. It evolved into a hybrid model that functions both as a social movement and an alternative tourism enterprise. However, this success brings Khaki Tours to a strategic crossroads. As demand grows, the organization must decide whether to remain deeply rooted in Mumbai or expand its model to other cities. It must also explore whether digital formats, publications, and merchandise can offer scalable growth without diluting the authenticity of its on-ground experiences. Managing its volunteer-driven "Khaki Army" poses challenges related to consistency, motivation, and long-term sustainability. Amid rising competition and the risk of imitation, Khaki must balance its commercial needs with its mission-driven purpose. This teaching case invites students to analyse how a heritage enterprise can scale responsibly while preserving its core identity of telling stories that strengthens civic consciousness.

Dr. Devaki Nadkarni [1] **Dr. Ritu Sinha** [2]

Keywords: *Heritage Walks, Storytelling, Scalability, Tourism, Mission-driven Enterprise, Khaki Tours, Mumbai.*

Discussion Question Options

1. How can Khaki Tours balance commercial growth with its mission of community-driven heritage preservation?
2. What strategic choices should Khaki make to scale sustainably while retaining authenticity in its storytelling and civic engagement?
3. What organizational structures and systems are needed to evolve Khaki from a volunteer-led initiative into a scalable, mission-driven enterprise?
4. Should Khaki focus on deepening its impact in Mumbai or pursue expansion into other cities, and what trade-offs would each path entail?
5. What risks does Khaki face in becoming too commercially oriented or too civic-focused, and how can it maintain equilibrium?
6. How can Khaki effectively measure and communicate its social and cultural impact to stakeholders, partners, and the community?

Introduction

On a misty Saturday morning in Mumbai's Fort district, a small group of strangers gathered beneaththe fading shadow of an old clock tower. The city was still stretching itself awake street vendors quietly arranging their wares, Irani cafés clinking their first cups of the day, pigeons sketching lazy arcs across Gothic spires. At exactly eight, a man in khaki stepped forward, armed with nothing more than a booklet of sepia-toned photographs, maps and a gentle smile.

"Welcome," he said simply. "Today, we walk through time."

[1] Assistant Professor, IES's Management College and Research Centre, Mumbai, author can be contacted at devaki.nadkarni@ies.edu
[2] Associate Professor, IES's Management College and Research Centre, Mumbai, author can be contacted at ritu.sinha@ies.edu

As the group followed him through the narrow bylanes, they soon realized they weren't merely touring a neighbourhood, they were peeling back layers of a city hidden in plain sight. Their guide brought alive forgotten architects, battles etched into stone, merchants whose laughter once echoed through these bazaars. Nostalgia drifted around them, not as sugary sentiment but as a quiet provocation nudging each participant to reconsider what it meant to truly belong to Mumbai.

What none of them knew was that this walk was part of an immersive experiment. Khaki Tours, which began as a volunteer-led initiative to safeguard Mumbai's urban heritage, was slowly transforming into a movement. It envisioned an alternative form of tourism, Architecture tourism. It is a form of travel that focuses on experiencing a place through its built environment, iconic landmarks, historical buildings, and modern designs. It offers storytelling about the significant sites, and learning about the cultural, historical, and social narratives embedded in a city's architecture. Yet its founders now faced a dilemma: how could they scale their impact and reach wider audiences without diluting the authenticity that came from grassroots passion?

Few meters away, in the same city, three women wove their way toward the Gateway of India. “Hey Mom! Look! That building looks so much like the Parliament Building in London!” Nikita exclaimed, pointing at the stately façade of Elphinstone College. Her mother, Gita, smiled, part amusement, part nostalgia. Gita, visiting Mumbai from New York with her daughters, had once roamed these streets as a college student. Though she had left for the US forty years ago, this corner of Mumbai, Kala Ghoda, Fort, the stretch to Colaba, remained etched in her heart. Her daughters, Neha and Nikita, had visited the city as children, but life had carried them into adulthood, careers, and continents. This trip, sparked by a family wedding, was a rare moment of reunion with the city that lived in their mother's memories.

For the girls, Mumbai had always been noisy, fast, and overwhelming. Yet this time, something was different. The Gothic arches reminded Nikita of London's heritage blocks; the graceful facades stirred a curiosity neither had felt before. They sensed a Mumbai that was not merely bustling but mysterious, layered, and achingly alive. At a family gathering later that evening, Gita's cousin Sachin casually asked what they had explored. Noting the mild disappointment in Gita's voice, he smiled knowingly. He told them about the heritage walks of Khaki Tours experiences that brought Mumbai's hidden stories to life. Sachin personally knew its founder, Bharat Gothoskar, whose passion for the city was legendary. He promised to find just the right walk for them. What began as a family visit was about to transform into something deep era rediscovery of roots, identity, and the power of a city reclaiming its own narrative.

Genesis of Khaki Tours

Bharat Gothoskar, often found himself dismayed by the neglect of the city's heritage precincts. He studied mechanical engineering and business management, but actually wanted to be a conservation architect. The city's history and heritage has been an abiding interest in him since childhood, and that made him give up a 16 years career in sales and marketing for corporate houses like Godrej, Pidilite and Mahindra to pursue his passion of Heritage Evangelism through experiential travel.

Mumbai, India's bustling financial capital, is a city of contrasts, gleaming skyscrapers coexist with colonial-era buildings, and ancient temples share space with urban slums (Pelino, 2019). Amid this complexity, the city's rich architectural and cultural heritage is often at risk. Rapid urban development and public apathy add to this threat. As cities grow and modernize, many historic neighborhoods begin to deteriorate (Yang et al., 2025). This gradual decline has become a major challenge for preserving heritage. In a metropolis known for its frenetic pace and ceaseless transformation, Mumbai is often perceived as a city of the future. Yet, it is also a palimpsest of layered histories colonial-era structures, art deco buildings, vernacular architecture, industrial mills, and bustling native surroundings all coexisting in a fragile balance. However, amid rapid urbanization, a significant part of this physical and cultural heritage has remained neglected, misinterpreted, or outright erased (Cudny et al., 2025). Bharat was saddened because of this.

When he used to travel abroad for his work, he noticed how modern city co-exists with the historical sites and the citizens take pride in conserving the culture and heritage structures which also attracts tourists from all over the globe. He was inspired by initiatives in cities like London and Istanbul and started organizing informal heritage walks for friends (Mathew et al., 2024). He made the walks interesting by telling stories about the

historical facts and heritage monuments. Khaki Tours came into being in 2015 when Bharat posted an event on Facebook for a walk around the Banganga Tank. After receiving a huge response, requests started pouring to have open walks in other parts of the city, covering other interesting spots of Mumbai. He began leading informal heritage walks in Mumbai's older neighborhoods, Byculla, Bhuleshwar, Fort, and Dongri as a volunteer-driven activity. His approach to storytelling was different from conventional academic or touristic formats. Instead of focusing only on grand monuments, he highlighted forgotten alleys, legends, crafts, lost landmarks, and local histories (Amore et al., 2020). The overwhelming interest led to the formal establishment of Khaki Tours. From the outset, the venture differentiated itself by focusing on rigorous research, immersive storytelling, and professional execution.

The name "Khaki Tours" was a deliberate choice. It is an acronym of 'Keeping Heritage Alive and Kicking in India'. The word "khaki" also evoked ideas of both uniformed authority and citizen responsibility. It resonated with the founder's vision of "heritage as activism", where learning about the past could inspire actions in the present. Khaki Tours quickly gained a loyal following through word-of-mouth and social media, particularly Facebook and Instagram, where photos from walks began drawing interest from young urban professionals. What started as a passion project soon took the form of a structured, revenue-generating enterprise offering ticketed walks, themed merchandise, and curated heritage experiences for corporates and schools.

Khaki Tours emerged in Mumbai at a time when the city's layered urban heritage was fading into the background of rapid modernization. Founded as a volunteer-driven initiative by passionate city lovers, the organization sought to reposition heritage from being a passive backdrop to an active, lived experience. Their walking tours blended nostalgia with storytelling, inviting citizens to rediscover forgotten precincts, architectural gems, and cultural histories that shaped Mumbai's identity. The occasional walks soon evolved into a hybrid social entrepreneurship modelpart civic movement, part enterprise. While the spirit of volunteerism remained strong, Khaki Tours faced the classic scaling dilemma: how to expand its offerings while preserving authenticity, community trust, and the intimate charm that made the tours meaningful. As demand grew, the organization experimented with paid tours, merchandise, and curated experiences, yet constantly balanced revenue generation with its mission of civic engagement.

Khaki Tours also championed alternative tourism models, rejecting conventional sightseeing in favor of immersive, hyper-local exploration. Their focus on community mobilization empowered residents, artisans, and local businesses, forging a participatory ecosystem built on shared stewardship of the city's heritage (Cardoso et al., 2022). Neighborhoods once overlooked became stages for everyday heroes: dabbawalas, restaurateurs, architects, preservationists, and storytellers who added depth to the narrative of Mumbai. Through its repositioned approach to heritage tourism, Khaki Tours demonstrated how nostalgia can spark public consciousness, how citizens can become custodians of place, and how urban spaces can be reimagined through collaboration. Yet the overarching question remained: could they scale up without losing the soul of the movement they had ignited?

Thematic Walks / Tours

Khaki Tours has built its identity around a rich repertoire of more than 60 meticulously researched heritage walks, each designed to bring Mumbai's layered history to life through storytelling. Among its most popular group tours are the Bhuleshwar Bhulbhulaiya, a maze-like journey through temples, bazaars, and traditional communities; the Byculla Bylanes walk, which highlights colonial-era architecture, historic cemeteries, and reformist movements; and Mumbai by Night, offering a unique perspective on the city's nightlife through the lens of urban heritage. Other favorites include Mills to Malls, which traces Lower Parel's transformation from an industrial powerhouse to a commercial hub; Dhobi Tales, a walk through the Dhobi Talao area uncovering hidden gems of old 'Native Town'; and Grisly Girgaon, one of their most intriguing night trails known for over 150 'ghost walk' narrations. Each walk weaves together stories, anecdotes, and historical insights, enabling participants to connect deeply with the city's past and present.

Besides Heritage Walks, Khaki tours conducts Food Walks, Open Jeep Safaris, E-Victoria rides and Cruises. They also conduct themed tours based on the festivals as well as different events happening in the city. The public walks are priced between ₹499 and ₹999 and are

conducted mostly on weekends. The group sizes typically ranging from 8 to 15 participants. On particularly busy days, Khaki Tours often registers multiple groups for the same walk, reflecting the growing public interest in experiential heritage exploration. Khaki Tours also customizes heritage experiences for corporate CSR events, school-based heritage education programs, and visits by foreign delegations and consulates. These tailored engagements not only allow the team to design context-specific narratives and routes but also offer higher revenue margins compared to regular public walks. With better control over scheduling, group size, and content delivery, these customized tours provide greater planning flexibility while strengthening Khaki Tours' position as a trusted partner for experiential learning and cultural engagement.

Khaki Tours follows a diversified revenue model that allows it to sustain operations while staying true to its heritage mission (Tosi et al., 2021). Public walk tickets form the backbone of its income, contributing nearly 50–60% of total earnings. These weekend and weekday walks attract a steady stream of heritage enthusiasts, students, and tourists. Another 20–25% comes from institutional and private bookings, including corporate CSR events, school programs, and specially curated tours for embassies or international delegations. These engagements provide higher margins and more predictable scheduling. The organization has also developed merchandise and digital products, such as maps, postcards, board games, and online content, contributing 10-15% of revenue while strengthening brand visibility. The remaining 5-10% comes from donations and grants, particularly from individuals and supporters aligned with urban conservation.

While Khaki Tours is renowned for its immersive and deeply researched heritage walks and 'Urban Safaris' focused on Mumbai's rich history and culture, the organization has expanded its horizon to offer International Tours that carry the same commitment to storytelling and exploring hidden heritage (Nakamura, 2014).These international trips are typically curated, experiential journeys designed to delve beneath the surface of well-known global destinations. They are a logical extension of Khaki Tours' core mission: to make history and heritage accessible, engaging, and alive.By venturing internationally, Khaki Tours allows its patrons to explore the global heritage that often intertwines with the stories and history of India, maintaining its signature style of "Keeping Heritage Alive and Kicking."

While the model of Khaki is profitable at a modest scale, it faces inherent constraints. Physical heritage walks are geographically bound, limiting expansion beyond Mumbai without significant investment. Each walk also relies heavily on trained storytellers, making scaling dependent on volunteer availability and consistent quality. Additionally, operations remain highly founder-dependent, with limited automation or professionalization. These factors restrict long-term scalability and highlight the need for strategic transformation to expand impact sustainably (Chavan et al., 2023).

Khaki Army

Khaki Tours functions with a lean full-time team that includes content researchers, an operations lead, and marketing personnel, but the true driving force behind the organization is its vibrant volunteer base known as the Khaki Army. This diverse group of more than 100 trained volunteers plays a crucial role across all facets of the organization from curating and conducting heritage walks to managing events and participating in civic engagement initiatives. Volunteers come from an array of professional backgrounds, including architects, teachers, students, writers, entrepreneurs, doctors and retired bureaucrats, bringing with them a rich mix of expertise and personal passion for Mumbai's heritage.

Each volunteer undergoes a structured induction program along with specialized training in research, communication, and storytelling, which helps maintain the high quality and authenticity of the walks (Olsson et al., 2016). Their involvement enables Khaki Tours to expand its operations and community impact without significantly raising fixed costs, making the model financially sustainable. Moreover, the volunteers' deep-rooted connection to the city enhances the emotional and cultural resonance of the experiences they deliver. Despite these strengths, sustaining long-term motivation among volunteers poses an ongoing challenge, requiring continuous engagement, recognition, and opportunities for meaningful contribution (Fullwood et al., 2021).

Khaki Heritage Foundation (KHF)

Khaki Tours extends its role far beyond conducting heritage walks by actively engaging in civic and cultural

preservation across Mumbai. Khaki Heritage Foundation (KHF) was formed in 2018with the objectives of creating awareness about Mumbai's heritage among all city stakeholders, residents, visitors, students, private organisations, NGOs, governmental agencies and elected representatives, through walks, talks, street installations, on-ground events, publications and online resources.Through its micro-heritage installations, the organization places small plaques and markers throughout neighborhoods to highlight forgotten structures, hidden stories, or contributions of local saints and historical figures, making heritage accessible to everyday passersby. Its Adopt-a-Precinct campaigns mobilize volunteers for neighborhood clean-ups, awareness drives, and basic conservation efforts, fostering a sense of shared responsibility for urban heritage.

One of the Foundation's initiatives is the KHAKI Lab, a multi-purpose cultural space dedicated to the city of Mumbai. Khaki Lab is a community hub located in Fort that hosts talk's exhibitions, and workshops on Mumbai's heritage and culture. Khaki hosts public talks and Khaki Lab events, periodically online creating vibrant platforms for historians, architects, activists, and citizens to engage in dialogue and storytelling (Hartlieb, 2023).To diversify its revenue and sustain public interest, Khaki also offers themed merchandise such as maps, postcards, board games, and T-shirts celebrating Mumbai's cultural legacy.

The other initiative is documenting and archiving articles, books, photos, paintings, artefacts, etc. related to the city's heritage and making them accessible to students, teachers, journalists, researchers and heritage enthusiasts for reference through a library (Brown et al., 2016).The KHAKI Library has a collection of about 170 books on Mumbai currently, and more are being added every month. The library is for reference only, and there is no charge. During the COVID-19 lockdown, the organization further expanded into publishing small booklets and digital content, ensuring that its connection with audiences remained strong even when physical walks were paused. Blogs, Videos and Podcasts: Bharat Gothoskar created more than 125 videos having the title 'Goshta Mumbaichi' for Marathi daily 'Loksatta' narrating the stories of Mumbai's historical places and Mumbai's global connections from the historical era. He also has published many blogs and podcasts both in English as well as Marathi.

Khaki Tours has a strong and meaningful association with the Kala Ghoda Festival. The Kala Ghoda Arts Festival is a well-known nine-day street arts festival held every February in Mumbai. It begins on the first Saturday and ends on the second Sunday. People from Mumbai, from different parts of India, and from around the world visit this festival to enjoy art, music, theatre, films, literature, and many other cultural activities. The festival celebrates the creative spirit and rich heritage of Mumbai. Khaki Tours works closely with the festival team every year. It designs and conducts special heritage walks that help visitors understand the history, architecture, and culture of Mumbai in a simple and engaging way. Khaki Tours also organizes food tours that showcase the city's diverse culinary traditions. Through these curated experiences, Khaki Tours adds depth to the festival and enables people to connect more deeply with Mumbai's unique story.

Recognition

In a relatively short period, Khaki Tours has made a remarkable impact on Mumbai's cultural landscape and urban consciousness. Its heritage walks frequently sell out, reflecting both growing public interest and the organization's strong reputation for high-quality storytelling (Majhee, 2025). The brand has become almost synonymous with “city love,” inspiring citizens to view Mumbai not just as a bustling metropolis but as a living museum of layered histories. Media coverage has amplified this influence, with consistently positive features in publications such as *The Hindu*, *Mid-Day*, *Time Out Mumbai*, and *BBC Travel*, positioning Khaki Tours as a leading voice in heritage awareness. The organization has also forged meaningful collaborations with institutions like Mumbai Metro, Mumbai Port Trust, and prominent heritage festivals, allowing it to extend its outreach to diverse audiences. Beyond visibility, its most profound contribution lies in transforming local attitudes—residents are no longer passive observers of heritage but active participants. Many join walks, share personal stories, and even contribute to research, becoming co-curators of Mumbai's narrative.

This shift toward community ownership has strengthened local pride and deepened public engagement with heritage preservation, showcasing Khaki Tours' ability to spark a citywide movement rooted in identity, memory, and belonging.

Competitive Landscape

Khaki Tours operates within a niche yet rapidly expanding segment of heritage-led urban tourism in Mumbai. The competitive landscape includes players such as Mumbai Heritage Walks (INTACH), known for its academically driven, monument-centric approach; No Footprints, which offers experiential tours blending food, culture, and grassroots interactions; and Raconteur Walks, focusing on highly personalized storytelling experiences. Additionally, Airbnb Experiences hosts a variety of casual heritage walks, though these often lack the depth, research quality, and consistency that structured organizations provide. Amid this growing competition, Khaki Tours distinguishes itself through its unique integration of place-making, civic engagement, and immersive storytelling rooted in local history. Its volunteer-driven model and community-centered initiatives create authenticity that competitors struggle to replicate. However, as more operators enter the space and mimic Khaki's formats, there is a rising risk of market dilution and reduced differentiation, making strategic innovation crucial for sustaining its distinct identity.

Khaki Tours now faces several strategic choices that will shape its long-term future. One major question is whether the organization should replicate its model in other cities such as Pune, Delhi, or Ahmedabad. While expansion could broaden impact and create new revenue streams, it would require strong local partnerships, extensive content redevelopment, and robust quality control mechanisms. Moreover, scaling geographically risks stretching founder Bharat's personal involvement, which has been central to maintaining authenticity and narrative depth. Another dilemma concerns the role of digital and virtual formats. During the COVID-19 lockdown, Khaki experimented with virtual walks, webinars, and Instagram-based storytelling. These formats offer scalability, global reach, and lower operational costs, but they lack the sensory richness and emotional resonance of physically "walking the city." Khaki must determine how to balance digital growth with its core value of embodied, place-based exploration. The organization must also consider whether to expand into publishing, licensing, or digital content monetization as new revenue avenues. While promising, these could shift focus away from grassroots engagement and civic impact Khaki's defining strength. Finally, sustaining the Khaki Army is critical. Should Khaki create a structured fellowship program for Team Leaders to ensure continuity, motivation, and accountability? These decisions will determine how the movement evolves without losing its soul.

Looking Ahead

As Khaki Tours enters its second decade, it finds itself at a crossroads shaped by passion, place, and purpose. In a city where modernization often erases memory, Khaki has redefined urban heritage transforming nostalgia into civic engagement and positioning itself as a hybrid social enterprise rooted in community mobilization. Yet its very success now fuels a deeper dilemma. Should it scale beyond Mumbai, risking dilution of its authenticity, or remain hyperlocal and limit its influence? Can a volunteer-driven model sustain long-term impact, or must professionalism replace passion? And as alternative tourism models proliferate, how can Khaki preserve its distinctive storytelling ethos while remaining financially viable? Bharat Gothoskar is pondering over the pivotal question: *Can Khaki grow without losing the soul that made the city fall in love with it or is holding space for stories that matter a mission incompatible with aggressive expansion?*

References

Amore, A., & Roy, H. (2020). Blending foodscapes and urban touristscapes: International tourism and city marketing in Indian cities. International Journal of Tourism Cities, 6(3), 639-655

Brown, S., Clarke, A., & Frederick, U. (Eds.). (2016). Object stories: artifacts and archaeologists. Routledge

Cardoso, A., da Silva, A., Pereira, M. S., Sinha, N., Figueiredo, J., & Oliveira, I. (2022). Attitudes towards slum tourism in Mumbai, India: analysis of positive and negative impacts. Sustainability, 14(17), 10801

Chauhan, E., & Anand, S. (2023). Guided heritage walks as a tool for inclusive heritage education: case study of New Delhi. Journal of Cultural Heritage Management and Sustainable Development, 13(2), 253-268

Chavan, A. C., & Romanov, Y. (2023). Managing Scalability and Cost in Microservices Architecture Balancing Infinite Scalability with Financial Constraints. Journal of Artificial Intelligence & Cloud Computing, 2(4), 1-14

Cudny, W., Sattar, S., & Barwiński, M. (2025). Sustainable Urban Development Through Creative Film Industries: From Hollyłódź to Bollywood

Fullwood, R., & Rowley, J. (2021). The role of knowledge

sharing in volunteer learning and development. Nonprofit Management and Leadership, 32(1), 121-139

Hartlieb, V. (2023). Sustainable travel and tourism: Raising awareness through digital storytelling (Doctoral dissertation, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης)

Majhee, B. (2025). Exploring the Literary Urban Imagination in India: A Historical Overview of Cities, Culture, and Storytelling Through Time. South India Journal of Social Sciences, 23(2), 16-20

Mathew, A., & Sushanth, S. J. (2024,), Sustainable Tourism: A Community-Inclusive Approach in the Case of Manori, Mumbai. In International Conference on Trends in Architecture and Construction (pp. 443-460). Singapore: Springer Nature Singapore

Nakamura, C. (2014). Mumbai's quiet histories: Critical intersections of the urban poor, historical struggles, and heritage spaces. Journal of social archaeology, 14(3), 271-295

Olsson, A. K., Therkelsen, A., & Mossberg, L. (2016). Making an effort for free–volunteers' roles in destination-based storytelling. Current Issues in Tourism, 19(7), 659-679

Pelino, C. (2019). Built Heritage and Multiple Identities In Mumbai. Art and Economics in the City, 69

Pisolkar, Y., Chaudhary, N., Sharma, A., & Taskar, A. (2025). Opportunities and Challenges in Heritage Conservation: Heritage Walks, Heritage Drives, And On-Site Talks in Pune, India. International Journal of Conservation Science, 16(1), 165-174

Rabbiosi, C., & Meneghello, S. (2023). Questioning walking tourism from a phenomenological perspective: Epistemological and methodological innovations. Humanities, 12(4), 65

Saiyed, A. A., Basalingappa, A., & Sinha, P. K. (2016). Value network in heritage walks: case studies of Ahmedabad city walks. Journal of Heritage Management, 1(2), 191-204

Tosi, L., & Bagarotto, E. M. (2021). Access fees to cultural heritage cities: a way to promote sustainable tourism?. World Tax J., 283

Vasile, V., Vasile, V., & Jones-Sepulveda. (2019). Caring and sharing: The cultural heritage environment as an agent for change. Berlin: Springer International Publishing

Veldpaus, L., & Szemző, H. (2021). Heritage as a matter of care, and conservation as caring for the matter. Care and the City, 194-203

Yang, Y., Hakimi, H. A., Azmi, N. F., Li, K., & Duan, B. (2025). A Framework for Heritage-Led Regeneration in Chinese Traditional Villages: Systematic Literature Review and Experts' Interview. Heritage, 8(6), 219

Reviewed by

Dr. Hufrish Majra
Professor

IES's Management College and Research Centre, Bandra Reclamation, Mumbai - 400 050.

Email: hufrish.majra@ies.edu

Prachi Naik
PGDM, II year student

IES's Management College and Research Centre, Bandra Reclamation, Mumbai - 400 050.
Email: prachi.naik24@ies.edu

Atomic Habits

Author: James Clear

ISBN-13: 978-1847941831

Publisher: Random House Business Books India

Publishing Year: 2018

Pages: 320

Price: ₹ 499

Atomic Habits by James Clear came to be from his own experience teaching readers about habit formation through his newsletter, growing from 1,000 to 30,000 subscribers in no time. This influx of attention was the onset of his career as a habit expert and a precursor to his burgeoning book success. Clear writes for everyone students, entrepreneurs, athletes, employees, anyone who wants to improve their lives through improved habits. Essentially, the founder of habits provides a straightforward approach that small changes, executed consistently over time, can achieve incredible results. The idea of the compound effect the ability to make minuscule improvements and practice them daily for long term success permeates all aspects of the text as its central tenet.

The way Clear creates such an effective atmosphere surrounding his text is through real world research and applicable analysis. For example, the British cycling team arose through marginal gains; ice cubes take a lot to get warm before melting just as habits take time to break before results appear; and the "two minute rule" helps readers understand how to start. Such real world examples are supported by research within psychology and behavioral sciences to add credibility yet remain informative for the everyday reader. Ultimately, Clear seeks to create a guidebook for the rest of one's life to understand how to approach human behavior and conditioning with step by step frameworks that can ease the process of building a habit over weeks or even months.

From the start, Clear articulates the need to think in systems and not goals and how habits ultimately are rooted in identity. He proposes that you must form the type of person who does the more desirable things you'd like to do. The model he proposes is essentially a four-part habit loop (cue, craving, response, and reward) that drives all successful behavior change. The first law, "Make It Obvious," deals with cues: the indicators or triggers that initiate behaviors. Clear promotes awareness of such triggers for action, with the habit scorecard and tactics like habit stacking (pairing new habits with established routines) helping readers to notice them. He also emphasizes the need to set up a space in which positive cues are obvious and negative ones are invisible.

The second law, “Make It Attractive,” takes on the psychology of motivation, explaining that we are more likely to enact habits when they seem appealing or rewarding. Clear introduces temptation bundling, or pairing enjoyable behaviors with necessary ones, and looks at the impact of social groups on the habits we form — “What is natural to us in our tribe feels good to us.” Third law, "Make It Easy" emphasizes that when it comes to forming habits, we need less motivation and more reductions in friction. By breaking down tasks, prioritizing practice over planning, and leveraging the two-minute rule, readers can make habits last. Clear also highlights how large a small decision, such as creating an automatic savings system or purchasing a water filter, can have on long-term positive change and with minimal effort.

The fourth law, “Make It Satisfying,” delves into why behavior gets repeated: because it feels good. Clear underscores the value of instant gratification, with a reminder that “you do what's rewarding” and “avoid what's punished”. Techniques like habit tracking, the "don't break the chain" game provide visual reminders of progress and support your ability to stick with it. He also accepts that relapses are part of the process and he introduces the concept of “never miss twice,” where even if you do mess up, you cut your loses quickly, there by promoting resilience and positive long term attention.

Clear emphasizes throughout the book that over time, even modest, steady improvements – just 1% better every day – can yield remarkable results. Though straightforward, this concept might seem overly hopeful to those looking for quick change, but it's still one of the most potent lessons learned. Although some readers might still prefer goal setting for tracking progress, his emphasis on systems rather than goals offers a novel viewpoint. Though it calls for intense self-awareness and self-control, the idea of identity-based habits – which holds that real change happens when you start to see yourself as the kind of person who embodies your desired habits – is especially transformative.

Although it cannot completely address the problems of deeply rooted negative behaviors, the framework of the four laws offers a clear and practical guide for habit development. Clear encourages readers to create environments that increase the likelihood of positive actions by highlighting the ways in which the environment influences behavior. Despite its effectiveness, not everyone can benefit equally from this tactic, particularly those who live in constrictive or difficult environments. The Goldilocks Rule is another enlightening idea. It states that motivation peaks when tasks are just right – not too easy, nor too hard – but just right on the edge of our capabilities. Although it might not be applicable to every habit or objective, this idea encourages sustained engagement.

Clear also emphasizes how crucial it is to pick the correct habits, pointing out that while the right ones facilitate easier progress, the wrong ones can cause frustration and setbacks. All things considered, Atomic Habits provides the reader with interesting, well-structured content without being overbearing. With its foundation in behavioral science and its straightforward, jargon-free language, it simplifies difficult concepts. In order to reinforce important ideas without interfering with the flow, diagrams and illustrations are carefully incorporated. By providing practical methods for forming positive habits and breaking negative ones, the book caters to the needs of contemporary readers while maintaining the impact of its main point through its emphasis on identity. Regardless of your background – student, professional, or personal development – the book has timeless, applicable value. Clear's book is a useful toolkit for lifelong improvement, not just another self-help manual. It combines science, motivation, and doable tactics that can genuinely change habits and perspectives.

Reviewed by

Ankita Pratik Naik
Incharge Principal

Pragati Degree College of Arts, Commerce and Science
Vasai East, Mumbai

Email:Ankitan072@gmail.com

The Power of Emotional Marketing: Brands that Resonate

Author: Bhuvana Subramanyan

ISBN: XXXXXXXXXXX

Publisher: Zebra Learn Books

Publishing Year: 2025 (First Edition)

Pages: 397

Price: ₹ 2,990

The Power of Emotional Marketing: Brands That Resonate by Bhuvana Subramanyan is an insightful and refreshing exploration of how emotions shape modern consumer behavior in a rapidly evolving, data-driven marketing world. The author emphasizes that while technology, analytics, and digital tools continue to advance, the true heart of successful marketing remains rooted in emotional connection. She strongly argues that consumers make most decisions subconsciously, guided not by logic but by how brands make them feel. This fundamental idea becomes the foundation of the book's narrative, positioning emotional engagement as the driving force behind loyalty, resonance, and brand longevity.

Subramanyan highlights that marketing must move beyond transactional messaging to a deeper, more meaningful form of communication that builds trust and connection. Drawing from her professional experience, she illustrates how emotional intelligence, when integrated into branding and communication strategies, can reshape marketing outcomes and create long-lasting customer relationships. The writing effectively bridges practical marketing insights with psychological understanding, making the book both educational and engaging.

The book spans 397 pages and offers a comprehensive, well-structured discussion on emotional branding. Subramanyan explains how emotions such as trust, joy, nostalgia, belonging, and even fear influence consumer choices. She demonstrates how brands can harness these emotional drivers to influence perception and build loyalty. One of the most compelling aspects of the book is its focus on storytelling. According to the author, stories possess emotional depth that enables brands to connect with audiences on a personal level. When consumers resonate with a brand's story, they transition from passive consumers to active supporters. This shift, she argues, is what sets memorable brands apart from the rest.A significant portion of the book also explains how emotional

marketing can be integrated into digital strategies. Subramanyan discusses how

content creation, social media communication, and digital experiences can evoke emotions and enhance engagement. Her insights are practical and easy to follow, making the book useful for marketing professionals, students, entrepreneurs, and anyone interested in understanding how emotions drive human behavior in the marketplace.

From an analytical perspective, Subramanyan's work stands out because it balances theory with real-world application. She brings together concepts from psychology, behavioral science, and communication studies to explain why emotional triggers are deeply embedded in human decision-making. The writing is clear and accessible, avoiding unnecessary jargon while still offering substance and depth. Readers from both academic and professional backgrounds can benefit from the clarity with which complex concepts are explained.

A particularly admirable element of the book is its ethical approach to emotional marketing. While explaining the power of emotions, Subramanyan cautions marketers against manipulating audiences. She emphasizes authenticity, empathy, and responsible storytelling. In a world where brands sometimes exploit emotional vulnerabilities to drive sales, her emphasis on ethics adds relevance and integrity to the book's message. She reminds readers that emotional marketing should enhance trust, not exploit it.

While the book is strong in concept and execution, it could have been further strengthened with more quantitative data or comparative cultural analysis. Emotional responses and consumer behavior vary significantly across regions, cultures, and socio-economic groups, and a deeper exploration of these variations could have added more depth. Nevertheless, this does not detract from the overall impact of the book, which remains insightful, practical, and thought-provoking.

The book naturally inspires further avenues for academic exploration, such as examining how neuroscience can decode emotional responses to brands, how artificial intelligence might measure emotional engagement in digital spaces, and how sustainable or socially responsible brands can use emotional storytelling to promote meaningful change. Similarly, there is space for future work on cross-cultural emotional branding, especially given the global nature of modern markets. These directions highlight the richness of the subject and reflect the author's ability to stimulate intellectual curiosity.

Subramanyan's work is relevant to a diverse audience. Marketing professionals will find her insights immediately applicable in their branding and communication strategies. Academicians and students studying consumer psychology or marketing communication will appreciate the clarity and structured analysis. Entrepreneurs and start-ups, who often struggle to create emotional differentiation in competitive markets, can benefit from the book's practical advice on building relatable and authentic brand identities. Even general readers with an interest in understanding how and why brands influence them will find the book eye-opening and relatable.

In conclusion, The Power of Emotional Marketing: Brands That Resonate is a timely and meaningful contribution to contemporary marketing literature. Subramanyan reframes marketing not merely as a commercial activity but as a deeply human interaction rooted in empathy, storytelling, and emotional intelligence. She convincingly argues that the most successful brands are those that do not just sell products – they sell feelings, ideals, and shared values. Through relatable explanations and practical examples, the book shows that emotional authenticity is not just a marketing tool but a powerful foundation for long-term brand success. It is a highly recommended read for anyone seeking to understand the emotional forces that shape today's consumer landscape.

Furthermore, the book's relevance extends to evolving digital ecosystems where brands interact with audiences in more dynamic and emotionally intelligent ways. Subramanyan insightfully connects traditional marketing wisdom with the demands of AI-driven personalization, content marketing, and social storytelling. Her perspective reinforces the idea that while data can reveal patterns, only emotions can forge real human connection. This profound balance between empathy and analytics positions the book as a guide for future marketers striving to remain authentic in an increasingly automated world. With its strong ethical grounding, practical frameworks, and visionary insights, the book will remain a reference for both seasoned professionals and newcomers to the field.

Journal Subscription Form

The annual Subscription rates, including postage, are as follows:

	Institutional	Individual
Within India	Rs. 1000	Rs. 600
Within SAARC Countries	US$ 50	US$ 30
Rest of the World	US$ 100	US$ 50

The subscription order should be accompanied by payment in the form of Bank Draft drawn in favour of "**IES-MCRC",** payable at Mumbai.

Name: .....

Position (If Individual): .....

Organization: .....

Mailing Address: .....

.....

.....

Telephone: .....

Fax: .....

Email: .....

Payment Details:

Bank Draft / Cheque at par drawn in favour of "IES-MCRC", payable at Mumbai

DD No. ……. Dated: …….....

Date: ..... **Signature**: …….....

Mail to:
The Chief Editor – Anvesha,
IES's Management College and Research Centre
'Vishwakarma' M. D. Lotlikar Vidya Sankul, 791, S. K. Marg,
Bandra Reclamation, Bandra (W), Mumbai 400 050.

Guidelines for Authors

The editors invite original unpublished empirical and theoretical papers, case studies and scholarly articles consistent with the scope of the journal.

- **Review Process**: All contributions submitted for publication will be subjected to peer-review. To allow blind review, authors are advised to provide their identification, affiliation etc. in a separate sheet and not in the main text. The Chief Editor reserves the right of making editorial amendments in the manuscript to meet the journal's standards.
- **Format**: Articles/Papers (3000-8000 words), and book reviews should be neatly typed as Word document on one-side of A4 size paper with double spacing in Times New Roman, 12-point font size justified text. The author(s) must also submit the soft copy of article/paper either in a CD or through e-Mail.
- **Cover page** should provide the title of the paper, name(s), designation and contact details of the author(s), along with a short biography of the author(s) within 100 words.
- The paper should be accompanied with an Abstract (150-300 words) and a list of keywords included in the paper.
- **Footnotes** to the text should be avoided. If required, they should be numbered consecutively and presented as endnotes.
- **Citations** of other works should be limited to the name of the author and year of publication. Short quotations should be included in the text within parentheses, while quotations of more than 30 words should be placed in a separate paragraph indented from the main body of the text.
- **References** should be indicated in the text by giving the name of author(s), with the year of publication in parentheses. All references should be alphabetically listed at the end of the paper in the following standard APA format:
  - **Books**: Gregory, James R & Wiechmann, Jack G. (2002) *Branding across borders: a guide to global brand marketing*. Chicago: McGraw-Hill.
  - **Journal Articles**: Joseph, H. (1997) Social Work with Groups: A Literature Review, *The Indian Journal of Social Work*, 58(2), 195–211.
  - **Conference Papers**: Mehta, Minu (2007) 'Entrepreneurship & empowerment of women; how & why', paper presented at the *International Conference on Empowerment of Women, CHM College of Arts, Science & Commerce, 28-29 May*
  - **Dissertations**: Ahmed, Shahid (1994) 'An analysis of globalisation of Indian economy' M.Phil Dissertation, Maharshi Dayanand University, Rohtak
- In the covering letter accompanying the manuscript, the author(s) should certify that the manuscript has neither been published anywhere nor is it being considered elsewhere for publication.
- The authors should obtain copyright clearance for the information and data used in the manuscript
- Copyright of all accepted papers for publication and use in any form/format will vest with IES Management College.

Authors/researchers are requested to upload their research paper using our online systems. To submit your paper online, please go to http://www.ies.edu/management/anvesha.php?cid=5&scid=52. All the submitted papers will be reviewed as per full double blind peer review by experts in your field. The online submission would help you in tracking the status of your submitted paper. Use the reference number you received after submission to track your submission.

Any queries relating to publication can be directed at any time to anvesha.ies@gmail.com, anvesha@ies.edu.

The Chief Editor - **Anvesha**
IES's Management College & Research Centre
'Vishwakarma' M. D. Lotlikar Vidya Sankul,
791, S. K. Marg, Bandra Reclamation,
Bandra (W), Mumbai 400 050.

Call for Paper

Anvesha, The Journal of IES Management College and Research Centre, is an academic forum for encouragement, compilation and dissemination of research on various aspects of management and business practices. It includes original empirical research as well as theoretical and conceptual works related to the field of management. It also publishes case studies, critical evaluation of existing business models and theories, and reviews of the latest books relevant to the scope of the Journal.

Anvesha: The Journal of Management is a semi-annual publication that offers researchers increased opportunities to publish their papers and articles. The journal is listed in the Ulrich's International Periodicals Directory, carries the ISSN 0974-5467, and is available online through the ProQuest and EBSCO databases. All submissions undergo a double-blind peer-review process.

Authors/researchers are requested to upload their research paper using our online systems. To submit your paper online, please go to http://www.ies.edu/management/anvesha.php?cid=5&scid=52. All the submitted papers will be reviewed as per full double blind peer review by experts in your field. The online submission would help you in tracking the status of your submitted paper. Use the reference number you received after submission to track your submission.

Any queries relating to publication can be directed at any time to anvesha@ies.edu

IES MCRC

VALUE ADDITION THROUGH EDUCATION

IES's Management College and Research Centre

'Vishwakarma' M. D. Lotlikar Vidya Sankul, 791, S. K. Marg,

Bandra Reclamation, Bandra (W), Mumbai 400 050.

Tel.: 91-22-50001725 / 50001749

Email: anvesha@ies.edu

Website: www.mcrc.ies.edu

Anvesha full text is available at ProQuest and EBSCO databases