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Comparative study on impacts towards non-performing assets on financial crises between public sector banks and private sector banks

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Abstract

The handling and consequences of non-performing assets (NPAs) have become important factors in today's financial environment when it comes to determining how resilient and stable banking institutions are. This study conducts a thorough comparative analysis, exploring the varying effects of nonperforming assets (NPAs) on financial crises, with a particular emphasis on the differences between public-sector banks (PSBs) and private sector banks (PSBs). The research employs a comprehensive approach that incorporates quantitative evaluations, empirical analyses, and qualitative analyses of both historical and current data. Through comparing the performance of banks in the public and private sectors at times when non-performing assets (NPAs) are at an elevated level, this study seeks to identify trends, pinpoint weak points, and pinpoint robust approaches used by each industry. The inquiry also delves into the examination of policy responses and regulatory frameworks, analysing how governance, risk management, and institutional structures shape the disparate results seen in public and private banking organisations. In addition to expanding our knowledge of the complex relationships between non-performing assets (NPAs) and financial crises, the research's conclusions offer useful information to financial regulators, policymakers, and business professionals. Formulating focused and efficient strategies to improve the overall stability and sustainability of the banking sector in the face of NPA-induced financial crises will require an understanding of the unique challenges faced by public and private sector banks. The study's findings add to the ongoing conversation about prudent risk management, the effectiveness of regulations, and the general health of banking institutions in modern economies as financial systems continue to change.

Keywords: Non-performing assets, public-sector banks, private sector banks, strategies

Introduction

One of the most important factors influencing the health and stability of the banking and finance industry is the amount of non-performing assets (NPAs) in a dynamic and complex field. Given the difficulties that non-performing assets (NPAs) present to financial institutions, it is critical to comprehend the complex effects that these assets have on the frequency and intensity of financial crises. The present study undertakes a thorough comparative analysis, with a particular emphasis on the unique reactions and outcomes encountered by public sector banks (PSBs) and private sector banks (PSBs) in the context of increasing non-performing assets. The contrast between banks in the public and private sectors adds a fascinating element to this investigation because the two sectors frequently deal with different governance frameworks, regulatory environments, and risk management strategies. This study aims to identify trends, differences, and similarities in the ways that public and private sector banks manage and lessen the impact of non-performing assets during financial crises by closely examining historical data, regulatory frameworks, and economic indicators. In addition to adding to the body of knowledge regarding the connection between non-performing assets (NPAs) and financial crises, this comparative analysis will be useful to policymakers, financial regulators, and business professionals. Identifying the distinct obstacles that both public and private sector banks encounter when handling non-performing assets (NPAs) is crucial for developing focused approaches that improve the banking industry's overall resilience.

The knowledge gained from this research will be essential in developing effective policies and practices that will support the stability and sustainability of public and private banking institutions in the face of the difficulties presented by non-performing assets as financial systems continue to change. It is essential to look at how this revolutionary modernisation would affect non-performing assets (NPAs). The modernization and digitization of banking has had both beneficial and bad effects on NPAs, which are defined as loans or advances that stop producing income owing to borrower defaults or loan deterioration.

Review of literature

Anu Priya Arora (2012) ^[11] named their research as “Management of non-performing assets on Indian public sector banks”, the study highlights the importance of NPAs in the study of financial performance, as they can cause financial and economic degradation, signalling an adverse investment climate and traces the movement of the non-performing assets present in Indian public sector banks by analysing their financial performance with respect to key performance indicators and management of NPAs under the purview of new policy actions and regulatory adherence of the Reserve Bank of India. They concluded by highlighting the importance of NPAs in the Indian banking industry and the need for improved monitoring and control measures.

Vigneswaran Swamy (2012) named their research as “Impact of macroeconomic and endogenous factors on non-performing bank assets”, the study reveals that large banks may have better risk management procedures and technology, allowing them to finish up with lower levels of non-performing assets compared to smaller banks. Private banks and foreign banks have advantages in terms of efficiencies in better credit management that contains non-performing assets, suggesting that bank privatization can lead to better management of default risk. The results suggest that bank lending should adopt improved credit risk management procedures.

C.S. Balasubramaniam (2012) ^[13] named the research as “Nonperforming assets and profitability of commercial banks in India: assessment and emerging issues”, the study suggest that the identification of credit risk significantly affects credit risk performance, with credit risk identification negatively related to annual growth in NPAs or loans and has practical implications for Indian banks suffering from high levels of losses due to bad loans and the implementation of new Basel Accord norms by the Reserve Bank of India. The need for an effective risk management system to manage credit risk is important in the context of high and rising NPAs and the consequences for the Indian economy. They concluded that the Indian banking sector has shown good performance and profitability despite rising interest rates, operating costs, and the global financial crisis. Banks have improved their credit growth, deposit record, and return on assets and equities.

Dr. Maneesh Kant Arya (2013) ^[14] in their paper titled “An analysis of non-performing assets in challenging phase of Indian banking industry”, On-Performing Assets (NPA) pose a significant challenge to the Indian banking industry, affecting profitability and net-worth. A high NPA level indicates a high probability of credit defaults, reducing the value of assets and affecting overall profits and shareholders' value. The paper analyses NPA changes across different banks' groups and suggests the Securitization and

Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002, debt recovery tribunal independency, strengthening credit recovery processes, and ensuring non-priority sector loans and advances are not overlooked.

Jayakkodi (2016) ^[10] in their paper titled “Impact of non-performing assets on return on assets of public and private sector banks in India”, stated that the banking business is exposed to various risks, such as credit risk, liquidity risk, interest risk, market risk, operational risk and management risk. The objective of the study was, to analyse the trend in NPA ratio of select Public and Private Sector Banks. They concluded that, NPAs reflect the overall performance of the banks. The Indian banking sector faced a serious problem of NPAs. The extent of NPAs is comparatively higher in public sectors banks than private sector banks. Because the private sector banks have a secured loan policy as compared to public sector banks.

Ujjwal M. Mishra (2017) ^[1] in the paper titled “A Study of Non-Performing Assets and its Impact on Banking Sector”, mentioned about the importance of, NPA as a credit facility in respect of which the interest and / or instalment of principal has remained ‘past due’ for a specified period of time as stipulated by RBI. The objective of the paper was to understand the concept of non-performing assets, to understand the NPAs sector wise and to understand the recovery through various channels. They concluded that the operation of the bank is wide enough to cater to the needs of broad spectrum of the society and economy of India at large. Bank of Maharashtra should strictly follow all the norms and derivatives given by RBI. Bank needs to have better credit appraisal system so as to prevent NPAs from occurring.

Richa Banerjee (2018) ^[2] in their paper titled “Non-Performing Assets: A Comparative Study of the Indian Commercial Banks”, stated NPAs have become a source of grave concern for almost all the banks during the past two decades. Indian banks have recognised the fact that non-performing assets (NPAs) affect the profitability, net worth and value of the banks negatively. They concluded that, the bank's performance in terms of profitability and expansion or growth has been affected a lot due to the presence of Non- Performing Assets. Reasons behind increasing NPAs in both private and public sector banks are almost similar *viz.*

Sirus Sharifi (2019) ^[12] named their research as “The relationship between credit risk management and non-performing assets of commercial banks in India”, the study has practical implications for Indian banks suffering from high levels of losses due to bad loans and the implementation of new Basel Accord norms by the Reserve Bank of India. The need for an effective risk management system to manage credit risk is important in the context of high and rising NPAs and the consequences for the Indian economy

Binoy Joy Kattadiyil (2020) ^[3] in their paper titled “Non-Performing Assets -How To Convert Into Performing Assets And Support The Economic Growth”, mentioned that the article observes that over the period of time, NPAs and bad loans have been adding in a spiralling manner in Indian Banks. Despite the treatment of stressed assets and prompt corrective actions as per asset quality report by regulators, the results are appearing at a very slow pace. They concluded that e entire sector is gripped in the crisis. The

poor asset for the banks is a problem because as per the guidelines, given by the RBI, banks are required to keep some amount as provision depending on their asset quality thereby leading to declining profitability of the banks.

Devy M. Puspitasari (2021) [4] in their paper titled "Does the Ability to Manage Assets Affect Non-Performing Asset Purchase Decisions?", mentioned that One of the derivations of this issue is the management of assets of business entities that experience default. The decision to take over assets from entities affected by the internal financial crisis is influenced by many factors that were reviewed by several previous researchers. They concluded that, this business departs from the ability to value intangible assets and the environment around the assets to accelerate the decision to purchase problem assets from banks and what is no less important is the decision to purchase problematic assets whose risk is mitigated to ensure the sustainability of the property business which is relatively high risk.

Objectives

- To Evaluate the Extent of Non-Performing Assets in Public and Private Sector Banks.
- To Examine the Relationship Between Non-Performing Assets and Financial Crises in Public and Private Sector Banks.
- To Identify and Analyse Strategies for NPA Management in Public and Private Sector Banks.

Methodology

A research methodology refers to a systematic approach used to solve problems. The data used in this analytical research study was primarily gathered from secondary sources. The analytical framework uses a combination of quantitative and qualitative methods to fully explore all of the aspects of the research question. Quantitative analyses use statistical tools and econometric models to analyse large financial datasets for the purpose of assessing trends in non-performing assets, banking performance metrics, and macroeconomic indicators. Additionally, reviews of earlier studies, research articles, and internet sources were used to gather secondary data.

Major reasons for NPA

1. **Monetary Slumps:** Financial downturns, slumps, or times of lazy development can prompt diminished request, lower business productivity, and debilitated shopper spending. This, thusly, influences borrowers' capacity to reimburse credits, bringing about an expansion in NPAs across various areas of the economy.
2. **Deficient Credit Chance Appraisal:** Banks might stretch out credit to borrowers without leading intensive expected level of investment or surveying their financial soundness precisely. Unfortunate credit examination rehearses, like lacking security valuation, careless endorsing principles, and dependence on inadequate or off base data, improve the probability of advance defaults and NPA arrangement.
3. **Sectoral Stresses:** Certain areas of the economy might confront primary difficulties, administrative changes, or antagonistic economic situations, prompting elevated NPA levels inside those fragments. Ventures like land, foundation, power, and agribusiness are especially

helpless to sectoral stresses, which can bring about credit defaults and resource quality weakening.

4. **Remiss Checking and Follow-up:** Deficient observing of advance portfolios and inability to instantly recognize indications of pain can intensify NPA aggregation. Banks might forget to screen borrower execution, track reimbursement conduct, or make ideal restorative moves, permitting delinquent advances to grow into NPAs.
5. **Overleveraging and Obligation Weight:** Borrowers, the two people and partnerships, may become overleveraged, assuming unnecessary obligation comparative with their pay or resource base. High obligation troubles, combined with negative economic situations or startling occasions, can strain borrowers' reimbursement limit and lead to advance defaults, adding to NPAs. Misallocation of funds, diversion of loan proceeds, and falsification of financial statements are all possible outcomes of instances of fraud, misrepresentation, or mismanagement by borrowers or internal stakeholders. Such deceitful exercises sabotage the bank's resource quality and add to the amassing of NPAs.
6. **Legitimate and Administrative Elements:** Postpones in judicial procedures, lacking chapter 11 or bankruptcy systems, and administrative requirements might upset banks' capacity to recuperate contribution from defaulting borrowers actually. The resolution of NPAs can be slowed down and recovery efforts hindered by prolonged legal battles, procedural complexities, and enforcement difficulties.
7. **Outside Shocks and Interruptions:** Outer variables past the control of borrowers or banks, like cataclysmic events, international strains, pandemics, or worldwide monetary emergencies, can weaken financial circumstances and upset business tasks. These outer shocks might prompt expanded credit defaults and NPA arrangement, especially in weak areas or locales.

Case study

As of late, the Indian financial area has confronted critical difficulties connected with non-performing resources (NPAs), with a few banks wrestling with elevated degrees of disabled resources. One notable instance is Punjab National Bank (PNB), one of the largest public sector banks in India, which was plagued by a significant NPA crisis as a result of fraudulent transactions. In 2018, PNB was entangled in a monstrous extortion outrage including unapproved exchanges worth more than \$2 billion (roughly Rs. 14,000 crore). The misrepresentation, coordinated by a couple of maverick representatives in plot with outside parties, involved the issuance of false letters of undertaking (LoUs) and letters of credit (LoCs) to work with credit to choose borrowers without legitimate security or an expected level of effort. The false exchanges went undetected for quite some time, causing a significant development of NPAs on PNB's monetary record once the extortion became known. The disclosure of the extortion discoloured PNB's standing as well as had extensive ramifications for the Indian financial area overall, prompting elevated investigation of banks' gamble the executives rehearse, inward controls, and administration principles. The PNB fraud serves as a stark illustration of the dangers posed by inadequate internal

controls, lax oversight, and the potential for fraudulent activities to accumulate a significant amount of NPA. To prevent, detect, and reduce the risks of NPAs in banks, it emphasizes the significance of robust risk management frameworks, efficient surveillance mechanisms, and stringent compliance procedures. Following the misrepresentation occurrence, PNB and other Indian banks have gone to different lengths to reinforce their gamble the executives rehearse, upgrade inward controls, and further develop straightforwardness and responsibility. Be that as it may, the aftermath from the NPA emergency keeps on affecting PNB's monetary execution and notoriety, featuring

the drawn-out repercussions of NPAs on banks' soundness and productivity. The PNB fraud case exemplifies the difficulties banks face managing non-performing assets in real time and highlights the need for ongoing vigilance, thorough risk assessments, and proactive measures to prevent financial fraud and NPA accumulation.

Analysis and interpretation

The Below shown figure is the performance of public and private sector banks – Net NPA (Non-performing assets) amount for the financial year 2022 and 2023.

Table 1: Reference: Banking Statistics Inside page (Amt in Crores)

S.N	Private Banks	2022	2023	18	Bandhan Bank	1564	1228
1	City Union Bank. Ltd	1991	1018	19	IDFC First Bank Ltd	1808	1304
2	Tamil Nadu Mercantile Bank. Ltd	318	230	Total		43724	28357
3	The Catholic Surian Bank. Ltd	107	72	S.N	Public Banks	2022	2023
4	Dhanalakshmi Bait Ltd	232	109	1	Bank Of Baroda	13365	8384
5	The Federal Bank Ltd	1393	1205	2	Bank Of India	9852	8053
6	The Jammu and Kashmir Bank Ltd	1750	1334	3	Bank Of Maharashtra	1272	435
7	The Kamataka Bank Ltd	1377	1021	4	Canara Bank	18668	14349
8	The Karur Vysya Bank Ltd	1261	468	5	Central Bank of India	6675	3592
9	RBL Bank Ltd	807	773	6	Indian Bank	8849	4043
10	The South Indian Bank Ltd.	1778	1294	7	Indian Overseas Bank	3825	3266
11	Axis Bank Ltd	5512	3559	8	Punjab & Sind Bank	1742	1412
12	DCB Bank Ltd	573	357	9	Punjab National Bank	34909	22585
13	HDFC Bank Ltd'	4408	4368	10	UCO Bank	3316	2018
14	ICICI Bank Ltd'	6961	5155	11	Union Bank of India	24303	12927
15	Indus Ind Bank Ltd	1530	1715	12	State Bank of India	27966	21467
16	Kotak Mahindra Bank Ltd	2149	1479	13	IDBI Ltd	1864	1495
17	Yes Bank	8205	1668	Total		156606	104026

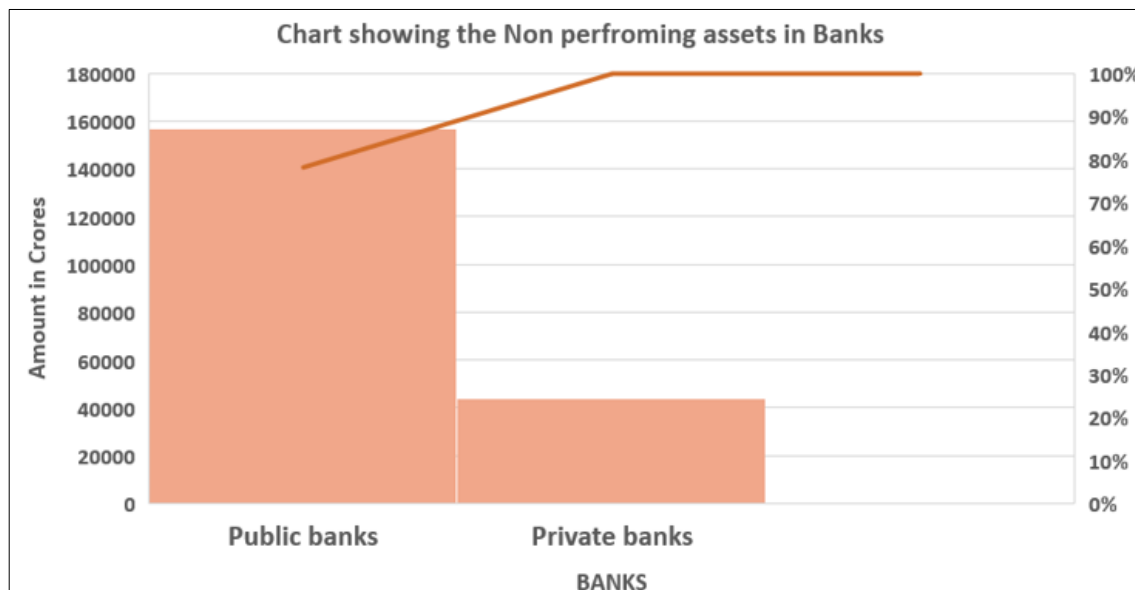


Fig 2: Chart showing the non performing assets in Banks

The data analysis consistently showed that private sector banks had a higher percentage of non-performing assets (NPAs), which may indicate weaknesses in their risk management procedures or loan portfolios. The high percentage of non-performing assets (NPAs) in private sector banks was found to be caused by a number of factors. A more aggressive lending strategy, a larger exposure to riskier assets, and a higher sensitivity to market swings were some of these factors. Furthermore, the study showed that private sector banks may encounter difficulties in upholding

strict lending standards and putting in place strong risk management systems, which could lead to an increase in the number of loan defaults. Public sector banks, on the other hand, showed a significantly lower percentage of non-performing assets (NPAs), suggesting a more cautious lending policy and possible emphasis on risk mitigation techniques. The results imply that public sector banks might have advantages such as stability, support from the government, and more stringent regulatory oversight, which could strengthen their loan portfolio. A crucial indicator of

the stability and health of a bank's finances, both public and private, is non-performing assets, or NPAs. Comparing NPAs in these two industries reveals both clear distinctions and commonalities. Due to competitive constraints and profit goals, private banks frequently have lower NPA ratios than public banks. Stricter lending procedures, stringent risk management systems, and an emphasis on high-quality borrowers to preserve profitability and investor trust are all responsible for this. On the other hand, public banks, which are subject to government regulation and frequently fulfil wider socio-economic objectives, might encounter difficulties in handling non-performing assets (NPAs) because of things like political meddling, bureaucratic procedures, and an obligation to provide credit to priority sectors even if they are not creditworthy. Public banks may therefore see relatively larger NPA ratios. However, regulatory changes, business upheavals, and economic cycles are challenges that both public and private banks must overcome and that may have an impact on their NPA numbers. Regardless of ownership structure, efficient NPA management is still necessary to maintain long-term profitability and guarantee financial stability throughout the banking industry. The study emphasises the significance of sound risk management procedures for banks in the private sector in addition to highlighting the discrepancies that currently exist. This comparative analysis yields valuable insights that financial institutions, banking regulators, and policymakers can utilise to improve their risk assessment and management frameworks. Resolving the issues with private sector banks could help make the banking industry as a whole more stable and long-lasting.

Suggestions

1. Entire Credit Risk Evaluation

By carrying out careful due diligence, determining the borrower's creditworthiness, and analysing the feasibility of suggested projects or investments, you may strengthen the credit assessment procedures. Establish strict loan origination standards, such as sufficient collateral coverage, suitable loan-to-value ratios, and risk-aware pricing that accounts for the borrowers' credit risk. Make use of credit scoring algorithms and sophisticated analytics to find early warning signs of possible defaults and improve the accuracy of credit risk assessment.

2. Efficient Surveillance and Monitoring

Provide thorough monitoring systems, such as frequent reviews of borrower financial records, key performance metrics, and payback patterns, to track the performance of loan portfolios in real time. Put early warning systems in place to spot declining credit quality and take proactive measures to stop it from getting worse. To evaluate the effects of unfavourable economic conditions on loan portfolios and make sure sufficient risk mitigation strategies are in place, regularly do stress tests and scenario analyses.

3. Smart Diversification of Portfolios

To lessen the effects of sectoral or regional economic downturns and to limit concentration risk, diversify loan portfolios across different industries, regions, and borrower groups. To reduce overall credit risk, steer clear of overexposure to high-risk industries or borrowers with unsatisfactory credit histories. You should also keep your mix of secured and unsecured loans well-balanced.

4. A Framework for Enhanced Risk Management

To guarantee responsibility, openness, and adherence to legal mandates, fortify risk governance systems and frameworks. To successfully manage and reduce credit risk exposures, implement strong risk management policies, processes, and controls, such as explicit risk appetite declarations, limits, and escalation mechanisms. Encourage a culture of risk-taking inside the company by providing regular training, implementing awareness campaigns, and offering incentives for prudent risk-taking.

5. Fast Resolution and Recuperation

Create specialised asset resolution teams whose job it is to manage troubled assets by promptly implementing recovery, restructuring, or disposal plans. Make it a priority to resolve non-performing assets (NPAs) by interacting with debtors in a proactive manner, providing workable choices for restructuring, and arranging long-term repayment schedules. To speed up the recovery process while minimising costs, make use of alternative resolution mechanisms including asset reconstruction corporations (ARCs), debt recovery tribunals (DRTs), or out-of-court settlements.

6. Careful Provisioning and Sufficient Capital

Sustain sufficient levels of provisioning in accordance with the anticipated credit losses (ECL) approach, taking into account the credit risk that is intrinsic to loan portfolios and guaranteeing precise identification of prospective loan losses. Through internal capital generation, equity infusion, or strategic capital management activities, improve capital adequacy ratios to absorb possible losses resulting from non-performing assets (NPAs).

7. Constant Observation and Evaluation

Establish a strong system for the continuous evaluation, reporting, and monitoring of NPA levels, trends, and risk indicators to the board of directors, senior management, and regulatory bodies. Review risk management policies, strategies, and procedures on a regular basis to adjust to changing market conditions, legal requirements, and new hazards.

Conclusion

The research findings indicate a noteworthy distinction in the frequency of non-performing assets (NPAs) between banks operating in the public and private sectors, with the former facing a greater incidence of NPAs. This disparity suggests that these two industries have different risk management procedures, lending strategies, and regulatory frameworks. Due to their more aggressive lending practices, private sector banks seem to have more difficulty keeping up a healthy loan portfolio, which makes them more susceptible to financial crises. Conversely, public sector banks demonstrated a more cautious stance, reinforced by the stability offered by government backing and strict regulatory supervision. As a result, there are fewer non-performing assets (NPAs), indicating a stronger position during recessions. The results highlight how crucial good risk management techniques are to reducing the effect of non-performing assets (NPAs) on financial crises. These insights can be used by banking institutions, regulatory agencies, and policymakers to improve the way they handle non-performing assets and maintain the overall stability of the banking industry. To reduce the risk of financial crises,

private sector banks must reevaluate their risk assessment procedures and implement more cautious lending practices. Essentially, this study adds to our knowledge of the variables affecting the correlation between non-performing assets and bank financial crises in both public and private sectors. Stakeholders can endeavour to cultivate a banking environment that is more resilient and sustainable, better able to withstand economic fluctuations, by acknowledging the obstacles encountered by each sector.

References

1. Mishra UM, Pawaskar JR. *Journal for Research*; c2017 Mar, 3(1). ISSN: 2395-7549.
2. Banerjee R, Verma D, Jaiswal B. *I Journals: International Journal of Social Relevance & Concern*. 2018;6(2). ISSN-2347-9698.
3. Kattadiyil BJ, Susilowati M. *International Journal of Management (IJM)*. 2020 Sep;11(9):78-90. Article ID: IJM_11_09_009.
4. Puspitasari DM, Roespinoedji D, Naipaul S, Nugraha NM, Amaliwiati L. *Turkish Journal of Computer and Mathematics Education*. 2021;12(8):445-51.
5. Murugan K, Selvakumar V, Venkatesh P, Manikandan M, Ramu M. The Big Data Analytics and its Effectiveness on Bank Financial Risk Management. 2023 6th International Conference on Recent Trends in Advance Computing (ICRTAC); c2023. p. 313-6. DOI: 10.1109/ICRTAC59277.2023.10480831.
6. Venkatesh P, Selvakumar V, Ramu M, Manikandan M, Senthilnathan CR. Measure of Well-Being of Freelancers in IT Sector. 2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS); c2023. p. 1-4. DOI: 10.1109/ICCEBS58601.2023.10448738.
7. Venkatesh P, Ilakkiya T, Ramu M, Manikandan M, Senthilnathan CR. An Analysis of the Strategic Approach to Utilizing Deep Learning for the Purpose of Predicting Stock Prices. 2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS); c2023. p. 1-4. DOI: 10.1109/ICCEBS58601.2023.10449085.
8. Ilakkiya T, Manikandan M, RK Ch, KM, Ramu M, Venkatesh P. Neuro Computing-Based Models of Digital Marketing as a Business Strategy for Bangalore's Startup Founders. 2024 Third International Conference on Intelligent Techniques in Control, Optimization and Signal Processing (INCOS); c2024. p. 1-3. DOI: 10.1109/INCOS59338.2024.10527779.
9. Venkatesh P, Selvakumar V, Manikandan M, Ramu M, Senthilnathan CR, Krishnamoorthi M. A Study on The Market Characteristics, Consumer Purchasing, and Behaviour Towards Footwear With Reference to Vellore Dist., Tamilnadu. Proceedings of the 3rd International Conference on Reinventing Business Practices, Start-ups and Sustainability (ICRBSS 2023). DOI: 10.2991/978-94-6463-374-0_18.
10. Jayakkodi D. *International Journal of Applied Research*. 2016;2(9):696-702.
11. Rajput N, Arora AP, Kaur B. *International Journal of Management, IT and Engineering*. 2012;2(4):197-210.
12. Sharifi S, Haldar A, Rao SN. *Managerial Finance*. 2019;45(3):399-412.
13. Balasubramaniam CS. Abhinav, *National Monthly Refereed Journal of Research in Commerce & Management*. 2012;1(7):41-52.
14. Arya MK, Jain K. *International Journal of Physical and Social Sciences*. 2013;3(11):262-71.
15. Maran K, Madhavi C, Thilagavathi K. Customer's Perception on Telephone: A Study with Special Reference to Chennai City. *Journal of Marketing Management*, ICFAI Press; c2004.
16. Maran K, Badrinarayana J, Kumar P. A Study on Branded Apparels Customers Purchase Behavior With Reference to India. *International Journal of Applied Business and Economic Research*. 2017;15(21):215-21.
17. Maran K, Chandra Shekar V. A Study on Student's Perception of Employability Skills with Respect to Engineering Institution. *International Journal of Research in Engineering, Social Sciences*. 2015;5(3):21-34.
18. Maran K, Sujatha L, Praveen T. Impact of Foreign Direct Investment on Automobile Sector: An Empirical Study with Reference to India. *International Journal of Economic Research*. 2017;14(11):187-96.