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# *Tecnia Journal of Management Studies*

***17 No. 2 October 2022 – March 2023***



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# *From The Editor's Desk*

I take this opportunity to thank all contributors and readers for making ***Tecnia Journal of Management Studies*** an astounding success. The interest of authors in sending their research-based articles for publication and overwhelming response received from the readers is duly acknowledged. I owe my heartfelt gratitude to all the management institutes for sending us their journals on mutual exchange basis, and their support to serve you better.

We are happy to launch the Thirty Four issue of our academic journal. The present issue incorporates the following articles:

- Comprehend Description of Comparative Analysis of Annualized Risk and Return of Cryptocurrencies and NSE NIFTY 50
- A Study on Emerging Trends of Cybercrimes in India
- Determinants of Webrooming and Showrooming Behavior: User-Generated Content Creation in the Omnichannel Era
- Financial Management Behavior: A Descriptive and Network Analysis
- Omni-channel Retail: The Nuances of Channel Choice and Switch Behaviour
- An Analysis of Impact and Scope of Moonlighting policy
- Social Media Use by Indian Public Sector Bank: A Study on State Bank of India
- SWOC Analysis - A Case Study of O.P. Jindal Global Institute of Eminence Deemed to be University (JGU) Sonipat, Haryana
- A Study on Awareness and Acceptance of The Digital Accounting Softwares and Al Among Accountants
- A Study of Porter's Diamond Model of National Advantage
- A Study of Internationalization Concept - The Uppsala Internationalization Model
- Central Bank Digital Currencies (CBDC): Trends and Future Research

My thanks to the authors, Shikha Singh, Rashmi Bhargava, Swati Aggarwal, Shivani Abrol, Mukesh Kumar Jain, Badal, Ajai Pal Sharma, Deepa, Barkha, Garima Gupta, Sonika Nagpal, Mamta Shah, Ngaimuankim Tonsing, Rajeev kaur, Kamal Kundra, Shankar Choudhary, Manish Chugh, Sweta Bakshi, Ajay Kumar, Sandeep Kumar, Monika Gupta, Shivani Abrol and Ms. Piyalee Bhattacharya who have sent their manuscripts in time and extended their co-operation particularly in following the American Psychological Association (APA) Style Manual in the references.

I extend my sincere thanks to our Chairman Dr. R. K. Gupta, who has always been a guiding light and prime inspiration to publish this journal. I am grateful for his continuous support and encouragement to bring out the Journal in a proper form. I also appreciate Editorial Committee Members for their assistance, advice and suggestion in shaping up the Journal. My sincere thanks to our distinguished reviewers and all team members of Tecnia family for their untiring efforts and support in bringing out this bi-annual Journal.

I am sure the issue will generate immense interest among corporate members, policy-makers, academicians and students.

**Editor**

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## General Information

- Tecnia Journal of Management Studies is published half-yearly. All editorial and administrative correspondence for publication should be addressed to the Editor, Tecnia Institute of Advanced Studies, 3 PSP, Institutional Area, Madhuban Chowk, Rohini, Delhi-110085.

- The received articles for publication are screened by the Evaluation Board for approval and only the selected articles are published. Further information on the same is available in the "Guidelines for Contributors".

- Annual subscription details with the format for obtaining the journal are given separately and the interested persons may avail the same accordingly.

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# Comprehend Description of Comparative Analysis of Annualized Risk and Return of Cryptocurrencies and NSE NIFTY 50

**Shikha Singh***
**Rashmi Bhargava****

***Abstract:*** *In this paper, we analyzed the risk and return of the five cryptocurrencies. We calculated the daily returns, standard deviation, and annualized risk & return of the cryptocurrencies (BTC, ETH, BNB, USDT & XRP), and the comparison is carried out on yearly basis. We also compared the 5 years of annualized risk and return of cryptocurrencies with the market (NSE Nifty 50). We gathered 5 years of data from 2017 to 2022 from coinmarketcap.com. Results were compared and we find that Binance (BNB) gives the highest return of 789127.59% at risk of 224.7% among all cryptocurrencies. We also infer that the market (Nifty 50) is more stable but gives a low return compared to cryptocurrencies.*

***Keywords:*** *Cryptocurrencies, NSE Nifty Fifty, Risk, Return, Standard deviation, Daily Returns*

## Introduction

In Modern times Cryptocurrency becomes the buzz in the trading Industry. Despite its complication, various Investors are looking forward to trading in this flowing market. As time moves on the acceptance of the cryptocurrency market experienced a broad perspective, and many fund managers started including cryptocurrencies in their portfolios to enhance their profitability.

Cryptocurrency trading is an emerging market that needs to be studied in every aspect for the people adding in it. This paper is an attempt to analyze the Risk and Return of the Top five leading cryptocurrencies based on their Market capitalization. It also aims to compare the selected cryptocurrency with the market.

Cryptocurrencies are also known as Crypto assets or Digital assets which are considered to be the first pure form of virtual currencies. Cryptocurrency has a general concept of decentralization and is not regulated by any distinct authority; this is because of the technology used in the cryptocurrency called Blockchain. Blockchain is a type of virtual ledger that facilitates the recording of each transaction of any asset. This system claims to provide transparent, reliable, and easily accessible transactions for the benefit of its users. The security of cryptocurrency is built on cryptography, it is associated with the process of storing and transmitting data to protect from theft and alteration and can also be used for the authenticity of the user. So, the cryptocurrency eliminates the middleman because of its decentralized feature which lowers the transaction cost for the crypto traders.

Bitcoin was the first cryptocurrency introduced in 2009 by the pseudonymous developer Satoshi Nakamoto. After Bitcoin, many alternative coins have been created and the growth of cryptocurrencies has increased tremendously. According to coinmarketcap.com (CMC), there are over 18,753 cryptocurrencies exist with a total market capitalization of around 200 billion dollars in 2022. Figure1 shows the historical data on the global market capitalization of all the cryptocurrencies.

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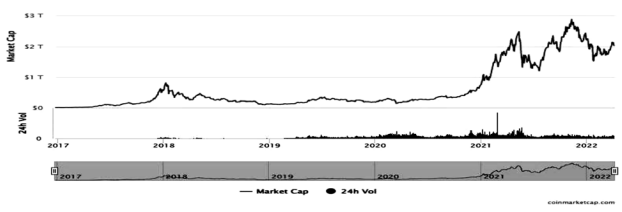



Figure1. Total market capitalization (coinmarketcap.com)

In an attempt to acquire the cryptocurrency one can either mine it or can buy it from the reliable cryptocurrency exchanges. Mining is the process of validation of transactions, a successful miner can obtain a cryptocurrency as a reward which leads to a decrease in transaction fees by generating an inducement for contributing to the processing power of the network. The process needs heavy investment in equipment, and cooling facilities because of the heat generated during the process and consumes lots of electric power. Cryptocurrency exchanges also facilitate the acquisition of coins. These exchanges help the traders to trade in cryptocurrency for other assets or fiat currency, this makes it easy for a common man to trade in the cryptocurrencies.

The most popular cryptocurrencies are Bitcoin (BTC), Ethereum (ETH), Binance (BNB), Tether (USDT), and Ripple (XRP).

**Bitcoin (BTC):** Initially, Bitcoin was outlined as a medium of exchange but nowadays it is considered a store of value. Satoshi Nakamoto develops many ideas from the cryptography circle in order to invent and implement Bitcoin. On 4th January 2008, bitcoin. org was registered as the domain name and on 3rd January 2009, the bitcoin network has emerged. The system used is peer to peer and transactions take place without an intermediary. Bitcoin is the largest of its kind in terms of total market value and its total supply value is bounded to 21,000,000 coins. One can create a bitcoin with the help of mining, in mid – September the reward for mining the bitcoin is 6.25 BTC. The price of bitcoin is also volatile like other coins but it has shown tremendous growth in the past years. The price of bitcoin compared to earlier is very high, today it is around $40,000. As the price rate is elevated, mining bitcoin is one of the profitable options. Over the past decades, bitcoin becomes a great store of value that an individual can use at a later date.

**Ethereum (ETH):** Ether is the cryptocurrency that is featured by a decentralized open-source blockchain system called Ethereum. Ether functions as a platform for decentralized smart contracts and other cryptocurrencies. In 2013, Ethereum was reported by Vitalik Buterin in a whitepaper. Ethereum was publicized in Miami at the North American Bitcoin Conference. According to coinmarketcap.com, the circulation of ETH coins was approximately 117.5 million in September 2021. It is considered asthe second-largest cryptocurrency after bitcoin, and one can buy it from any yptocurrency exchanges.

**Binance (BNB):** Binance was introduced in 2017 and became the largest cryptocurrency exchange worldwide. Globally, it plays the vanguard of financial activity for cryptocurrency exchanges. It includes various subprojects that provide a whole ecosystem of performance for its users. Binance was founded by Chanpeng Zhao, subsequently, he has been involved in blockchain technology and cryptocurrencies. In 2015, he became the blockchain head of development and established Bijie Tech.

He Yi is the co-founder of Binance before she c0-founded OKCoin in 2014 which was the biggest cryptocurrency exchange at that time. In 2017, she allied with Zhao and created the largest cryptocurrency exchange n, BinanceCurrently, there are around 168,137,036 BNB coins in circulation as of September 2021. Binance runs quarterly burning of coins in order to reduce the total supply to 100,000,000 BNB. One can purchase the coin from any cryptocurrency exchange but the best alternative would be to buy it from Binance itself.

**Tether (USDT):** USDT earlier known as Real coin was launched by Brock pierce, Reeve Collins, and Craig sellers in 2014. Tether, Hongkong based company issued USDT which is a Stable coin that reflects the price of the U.S. Dollar. Tether guaranteed the value of USDT is remain pegged to the USD. Tether claims that USDT is fully backed by cash and cash equivalents because of the fact that whenever it issues a new USDT token, it dispenses an equal amount of USD to its reserves.

The total supply of the USDT is not known, it only depends on the policy of Tether. According to the company, there are around 14.4 billion USDT tokens in circulation uphold by 14.6 billion in assets, as of September 2020.

**Ripple (XRP):** Ripple Labs Inc, a cryptocurrency payment system created XRP- "digital asset built for global payments" earlier it is called Open coin. Potential customers attract XRP because it allows them to send money at a low cost and in a few seconds. XRP ledger is created by Ryan Fugger in 2012 and based on this ledger, Chris Larren and Jeb McCaleb founded Ripple Labs Inc. in 2012. The ledger is powered by a peer-to-peer network of nodes which makes it an open-source cryptographic ledger.

The global network named Ripple net is used by financial institutions for quick and low-cost money transfers compared to traditional systems.

The maximum supply of XRP coins is 100,000,000,000 and current circulation is of 48,343,101,197 XRP coins.

## Literature Review:

**Wright (2008)** A simply distributed rendition of electronic money would permit on the web installments to be sent straightforwardly starting with one party and then onto the next without going through a monetary foundation. Advanced marks give part of the arrangement, yet all the same, the fundamental benefits are lost assuming a believed outsider is as yet expected to forestall twofold spending. We propose an answer for the twofold spending issue by utilizing a distributed organization. The organization timestamps exchanges by hashing them into a continuous chain of hash-based evidence of work, shaping a record that can't change without re-try the evidence of work.

**Suryani and Herianti (2015)** centered on LQ45's portfolio performance evaluation. The study's objective was to compare the dependability of three popular measures of risk-adjusted performance: the Sharpe Index, the Treynor Index, and the Jensen Index. In this case, the data showed that Treynor's consistently delivered a high level of performance.

**Sherif (2016)** examined Shariah-compliant Dow Jones market indices to capture stock returns at the economy and industry levels. The investigation showed ethical investment has a small impact on stock market results at the economy and industry levels. Alternative investment performance indicators, including the Carhart and Habit Formation models, were employed to assess Shariah-compliant Dow Jones market indexes. The data revealed a negative market timing skill with both Islamic and conventional indexes. During the recent financial crisis, Islamic Dow Jones indexes outperformed conventional ones.

**Chohan (2017)** The fleeting ascent of Bitcoin has prompted elevated venture, scholastic, business, numismatic, value-based, and specialist interest in that digital money, as well as in the developing cluster of such instruments around the world. This prompts a complemented need for an assessment of the authentic advancement of Bitcoin as the original instrument in the advancement of digital forms of money, and this conversation paper looks to address that hole.

**Baur et al (2017)** Bitcoin is characterized as advanced cash inside a decentralized distributed installment network. It is a mixture between government-issued money and item cash without inherent worth and autonomy of any administration or money-related power. This paper investigates the question of whether Bitcoin is a mode of trade or a resource and all the more explicitly, what is its ongoing use and what utilization will win later on given its attributes. We break down the measurable properties of Bitcoin and observe that it is uncorrelated with conventional resource classes like stocks, bonds, and items both in typical times and in times of monetary strife.

**Liu (2019)** Using the exact information of ten significant digital forms of money, this article analyzes the investablitiy and job of broadening in the digital money market and assesses the out-of-test execution of normally utilized resource portion models across digital forms of money. We demonstrate the way that portfolio expansion across various digital forms of money can altogether further develop the speculation results. We additionally find hearty proof that the greatest utility model rules the out-of-test utility, albeit none of the models can reliably pulsate the innocent 1/N portfolio in Sharpe proportion.

**Liu and Tsyvinski (2020)** find that digital money returns emphatically answer digital money organization factors, as proposed by the hypothetical writing. Nonetheless, our exact results don't uphold the idea that the advancement of digital money costs is connected to digital money creation factors. Simultaneously, the profits of digital money can be anticipated by two variables well defined for its business sectors: Dangers and Returns of Cryptocurrency force and financial backer consideration.

**Murari (2020)** studied if PFMs could match subscriber expectations. Using data from the NPS trust organization's annual reports and the Bombay Stock Exchange for 2011–2019 market returns, we examine the performance of the listed PFMs under different NPS schemes using Sharpe, Treynor, and Jensen's alpha. Our analysis shows that LIC Pension Funds Ltd dominated Sharpe ratio & Jensen's performance indicators. Treynor's ratio showed how PFMs performed under different NPS schemes. HDFC pension fund managers outperformed other PFMs in NPS stock and fixed income. The study compared the performance of all of India's NPS pension fund managers. Risk-adjusted performance measurements might also attract the attention of PFRDA, subscribers, and PFMs.

**Dasman (2021)** investigated the possible utilization of

the digital money bitcoin as a speculation instrument in Indonesia. The return acquired from bitcoin cryptocurrency is contrasted with other speculation instruments, specifically stock returns, gold, and the rupiah conversion scale. The examination time frame was completed in view of exploration information from 2011 to 2020. This review representative thinks about implies test t-test) and analysis of change (F test) on the pace of return of bitcoin speculation. The bitcoin return contrast with the pace of return structure of the other speculations instruments in particular conversion standard, gold, and stock. The review gathered pieces 120 of information on every venture's instrument: bitcoin, swapping scale, gold, and stock from different sources during 2011-2020. Then, at that point, we ascertain the return and hazard of individual speculation instruments. The outcomes showed that the bitcoin cash had the most elevated place of return 18% with a standard deviation of 61% contrasted with conversion scale, gold, and stock returns. While the pace of return for the other speculation instruments showed less than 0.5% with a standard deviation under 5%.

**Majumder (2022)** planned to assess the supporting and place of refuge properties of gold, cryptographic money, and wares against the Indian value market. utilize the multivariate GARCH structure to work out the powerful support proportions and supporting efficiencies to think about the supporting properties of the elective resource classes. Third, the creators confirm the strength of the overall discoveries during the new emergency exuding from the flare-up of the COVID-19 pandemic. utilize the multivariate GARCH system to compute the powerful support proportions and supporting efficiencies to think about the supporting properties of the elective resource classes. Third, the creators check the heartiness of the overall discoveries during the new emergency exuding from the episode of the COVID-19 pandemic.

**Fang (2022)** gives an exhaustive review of digital currency exchanging research, by covering 146 exploration papers on different parts of cryptographic money exchanging (e.g., digital money exchanging frameworks, air pocket and outrageous condition, the expectation of instability and return, crypto-resources portfolio development and crypto-resources, specialized exchanging and others). This paper likewise investigates datasets, research patterns, and dispersion among research objects (contents/properties) and innovations, finishing up with some promising open doors that stay open in digital currency exchange.

## Objectives:

- To study the conceptual framework of selected cryptocurrencies.
- To analyze the annual Risk and Return of selected cryptocurrencies.
- To compare the Risk and Return of the selected cryptocurrencies with the market.

**Data and Methodology:** For the purpose of the study, the dataset was collected for a period of 5 years from 01- April- 2017 to 31-March-2022. The data used in the study is gathered from the website coinmarketcap.com embraces the prices, volume, and market capitalization of cryptocurrencies on daily basis. We analyzed the top 5 cryptocurrencies having maximum market capitalization according to the data available during the period of the study. The cryptocurrencies selected are Bitcoin (BTC), Ethereum (ETH), Binance (BNB), Tether (USDT), Ripple (XRP). For the comparison of cryptocurrencies and the market, we collected the data from NSE Nifty fifty for the same duration.

In order to achieve the objectives, we calculated the daily return for the 5 years of the selected cryptocurrencies and the market (NSE Nifty fifty).

*Daily return* – The following equations would be used to work out return on daily basis.

$R_P = (NAV_t - NAV_{t-1}) / NAV_{t-1}$

For the year-on-year comparison we analyzed the Annualized return of the selected cryptocurrencies with the help of the following formula.

*Annualized return-* $\sqrt{(1 + Rp)^t} - 1$

Here the market risk is denoted by standard deviation and it is calculated with the help of daily returns. The formula used to calculate the standard deviation is as follows.

*Standard deviation-* Total risk would be measured with the help of the standard deviation of daily returns. Mathematically, the following formulae are used to compute risk and the market risk:

$$\sigma_p = \sqrt{\Sigma(Rp - \bar{R}p)^2 / n}$$

Where, $\sigma_P$ = standard deviation of daily return, $\bar{R}_p$ is the daily return of a scheme, n is the number of observations.

Annualized risk is calculated for the comparison among the cryptocurrencies and with the market.

*Annualized risk-* $\sigma_p\sqrt{n}$

## Data analysis and interpretation:

**Table 1. Year-on-year comparison among the selected cryptocurrencies.**

| Particulars | Annualized risk | | | | | Annualized return | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year/ cryptocurrencies | BTC | ETH | BNB | USDT | XRP | BTC | ETH | BNB | USDT | XRP |
| 2017-2018 | 104.25% | 133.78% | 224.73% | 19.5% | 276.68% | 1005.06% | 1755.42% | 89127.59% | 1.95% | 36250.80% |
| 2018-2019 | 61.65% | 95.07% | 96.49% | 9.12% | 102.49% | -27.50% | -41.37% | 149.57% | 0.44% | 5.16% |
| 2019-2020 | 83.95% | 95.23% | 94.19% | 13.75% | 85.90% | 124.36% | 53.44% | 12.66% | 0.95% | -18.61% |
| 2020-2021 | 66.75% | 89.37% | 126.52% | 6.76% | 133.04% | 1015.43% | 2006.00% | 4691.81% | 0.23% | 659.28% |
| 2021-2022 | 73.82% | 97.51% | 105.45% | 1.44% | 134.26% | 1.11% | 168.00% | 125.34% | 0.01% | 235.27% |

From table 1, we analyzed the year-on-year comparison of annualized risk and return of the selected Cryptocurrencies for the 5 years.

Bitcoin (BTC)- In 2017-18 the Bitcoin was at the highest risk at 104.25% but also provided a great number of returns with 1005.06%. In the year, 2018-19 it has given a negative return of -27.50% at a risk of 61.65%. During 2019-20, the returns again become positive at 124.36% with an increase of risk at 83.95%. Bitcoin has the highest return of 1015.43% in 2020-21 with a moderate risk of 66.75%. Later in 2021-22, the risk increased to 73.82% with a major decline in return at 1.11%.

Ethereum (ETH)- In 2017-18, the Ethereum gives a return of 1755.42% with the highest risk of 133.78%. In the year 2018-19, the return decreased to -41.37% with a risk of 95.07%. later in 2019-20, the risk was almost the same at 95.23% with a positive return of 53.44%. in 2020-21, the risk and return both got increased, it provides a return of 2006% with the risk of 89.37%. During 2021-22 the return decreased to 168.00% at risk of 97.51%.

Binance (BNB)- Binance is the risky as well as most profitable cryptocurrency as it provides a return of 89127.59% with a risk of 224.73% in 2017-18. During 2018-19, its return decreased to 149.57% at risk of 96.49%. Again in 2019-20, there is a decline in the return to 12.66 % at risk of 94.19%. In 2020-21, there is a massive increase in return of 4691.81% with the risk of 126.52%. later in 2021-22, the return declined to 125.34% with the risk of 105.45%.

Tether (USDT)- Tether is less risky compared to all and provides fewer returns also. In 2017-18, the risk was 19.5% and the return in that period was 1.95%. In 2018-2019, the return and risk declined to 0.44% and 9.12%. During 2019-20 the return of Tether is 0.95% with the risk of 13.75%, it was same as almost the same as the previous year. In 2020-21, there is a decline in Risk and Return, the risk was 6.76% providing a return of 0.23%.

Ripple (XRP)- In 2017-18, The XRP has an annualized return of 36250.80% at a very high risk of 276.68%, later in 2018-19 there was a drastic decline in the return, it was 5.16% at 102.49% risk. In 2019-20, there was a negative return of -18.61 % with a risk of 85.90%. During 2020-21, there was an increase in return of 659.28% at risk of 133.04%, and in the year 2021-22, the return is decreased to 235.27% with the slightest increase in the risk of 134.26%.

**Table 2. Annualized risk and return of the year 2017-2018**

| Cryptocurrencies | Annualized risk | Annualized return |
|---|---|---|
| Bitcoin | 104.25% | 1005.06% |
| Ethereum | 133.78% | 1755.42% |
| BNB | 224.73% | 89127.59% |
| Tether | 19.5% | 1.95% |
| XRP | 276.68% | 36250.80% |

From the above table, we have analyzed that annualized risk of XRP is highest at 276.68% following BNB at 224.73%. The Ethereum and Bitcoin have annualized risks of 133.78% and 104.25% which was at a moderate level compared to XRP and BNB. The least risky cryptocurrency was Tether having 19.5% annualized risk. While the annualized return of BNB is the highest at 89127.59% following XRP and ETHEREUM at 36250.80% and 1755.42%. Compared to these three, BTC gives a moderate return at 1005.06%, the least return is given by the Tether at 1.95%.

**Table 3. Annualized risk and return of the year 2018-2019**

| Cryptocurrencies | Annualized risk | Annualized return |
|---|---|---|
| Bitcoin | 61.65% | -27.50% |
| Ethereum | 95.07% | -41.37% |
| BNB | 96.49% | 149.57% |
| Tether | 9.12% | 0.44% |
| XRP | 102.49% | 5.16% |

In 2018-19 XRP has the highest risk at 102.49% following BNB and Ethereum at 96.49% and 95.07% which was lower than XRP. Bitcoin was moderately risky having 61.65% annualized risk and at most, the less risky cryptocurrency was tether with 9.12%. The annualized return of BNB was the highest at 149.57%, and XRP and Tether gave positive but very low returns during this year with 5.16% and 0.44%.

Bitcoin and Ethereum had a negative return in the period with – 41.37% and -27.50%.

**Table 4. Annualized risk and return for the year 2019-2020**

| Cryptocurrencies | Annualized risk | Annualized return |
|---|---|---|
| Bitcoin | 83.95% | 124.36% |
| Ethereum | 95.23% | 53.44% |
| BNB | 94.19% | 12.66% |
| Tether | 13.75% | 0.95% |
| XRP | 85.90% | -18.61% |

During the year 2019-20 Ethereum and BNB have the highest annualized risk at 95.23% and 94.19% succeeding XRP and Bitcoin have lower risk at 85.90% and 83.95% compared to ETH and BNB. The lowest annualized risk is of Tether at 13.75%. Bitcoin has the highest annualized return during this period at 124.36% Ethereum comes next with a 53.44% return. BNB and Tether have lower returns with 12.66% and 0.95%. XRP shows a negative return of -18.61 %.

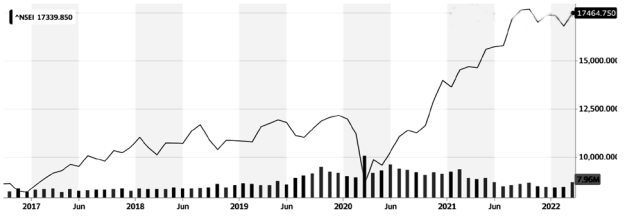
**Table 5. Annualized risk and return for the year 2020-2021**

| Cryptocurrencies | Annualized risk | Annualized return |
|---|---|---|
| Bitcoin | 66.75% | 1051.43% |
| Ethereum | 89.37% | 2006.00% |
| BNB | 126.52% | 4691.81% |
| Tether | 6.76% | 0.23% |
| XRP | 133.04% | 659.28% |

From the above table, we have analyzed that XRP and BNB is the riskiest cryptocurrency during the period of 2020-21. Followed by Ethereum and Bitcoin having annualized risk of 89.37% and 66.75%, Tether is the least risky among them with a 6.76% annualized risk. BNB gives the maximum return of 4691.81% succeeding Ethereum and Bitcoin with 2006% and 1051.43%. XRP has an annualized return of 659.28% and the lowest return is of Tether with 0.23%.

**Table 6. Annualized risk and return for the year 2021-2022**

| Cryptocurrencies | Annualized risk | Annualized return |
|---|---|---|
| Bitcoin | 73.82% | 1.11% |
| Ethereum | 97.51% | 168.00% |
| BNB | 105.45% | 125.34% |
| Tether | 1.44% | 0.01% |
| XRP | 134.26% | 235.27% |




Source: finance.yahoo.com

In the year 2021-22, the most risk is associated with XRP having 134.26% following BNB at 105.45%. Ethereum and Bitcoin are at a moderate level of risk at 97.51% and 73.82%. Tether provides the lowest risk of 1.44%. The annualized return of XRP is the highest at 235.27% and Ethereum and BNB is having returns of 168% and 125.34%. Bitcoin and Tether are the lowest return gainer amongst them with 1.11% and 0.01%.

## NSE NIFTY 50:

The NIFTY 50 is a differentiated 50 stock record representing 13 areas of the economy. It is utilized for an assortment of purposes, for example, benchmarking store portfolios, record-based subsidiaries, and file reserves. NIFTY 50 is claimed and overseen by NSE Indices Limited (previously known as India Index Services and Products Limited) (NSE Indices). NSE Indices is India's particular organization centered upon the file as a center item. The NIFTY 50 Index addresses around 66.8% of the free-float market capitalization of the stocks recorded on NSE as of March 29, 2019. The complete exchanged worth of NIFTY 50 record constituents throughout the previous half-year finishing March 2019 is roughly 53.4% of the exchanged worth of all stocks on the NSE. The influence cost of the NIFTY 50 for a portfolio size of Rs.50 lakhs is 0.02% for the month of March 2019. NIFTY 50 is great for subsidiaries exchanging.

Table 7 shows the analysis of annualized returns of cryptocurrencies and NSE Nifty 50 for the 5 years from 2017 to 2022. In 2017-18 we have seen that NSE Nifty 50 has annualized return of 10.05% while cryptocurrencies have enormous returns compared to the market, XRP has annualized return of 36250.80% which is the highest among all while Tether gives a lower return of 1.95%. In 2018-19, Ethereum and Bitcoin gave negative returns of -41.37% and -27.50% and BNB provides the highest return of 149.57% compared to the cryptocurrencies NSE Nifty 50 gave a 14.75% annualized return. During 2019-20 NSE Nifty 50 has a negative return of -23.62% and XRP also gave a negative return of -18.61% whereas Bitcoin has annualized return of 124.36%. In 2020-

**Table 7. Return Analysis of Cryptocurrencies with the market (NSE Nifty fifty).**

| Year | NSE Nifty 50 | Bitcoin | Ethereum | BNB | Tether | XRP |
|---|---|---|---|---|---|---|
| 2017-2018 | 10.05% | 1005.06% | 1755.42% | 89127.59% | 1.95% | 36250.80% |
| 2018-2019 | 14.75% | -27.50% | -41.37% | 149.57% | 0.44% | 5.16% |
| 2019-2020 | -23.62% | 124.36% | 53.44% | 12.66% | 0.95% | -18.61% |
| 2020-2021 | 82.75% | 1015.43% | 2006.00% | 4691.81% | 0.23% | 659.28% |
| 2021-2022 | 19.00% | 1.11% | 168.00% | 125.34% | 0.01% | 235.27% |

21, NSE Nifty 50 has provided a good amount of return which is 82.75% while Cryptocurrencies like BNB and Ethereum provided a giant amount of return which is 4691.81%, and 2006.00%, Tether gave the lowest return of 0.23%. In 2021-22, the NSE NIFTY 50 dropped to 19% and the same goes for cryptocurrencies XRP has the highest return of 235.27% and Tether is the lowest having a 0.01% annualized return.

Table 8 shows the Risk analysis of all the selected cryptocurrencies and the NSE Nifty 50 for the 5 years from 2017 to 2022. In 2017-18 we have seen that NSE Nifty 50 is at 9.86% risk which is lower than all the cryptocurrencies, the riskiest is BNB while tether is less Risky. During 2018-19 the XRP is the highest risky asset with 102.49% and Tether is the least risky with 9.12%, NSE Nifty 50 has annualized risk of 12.33% which is greater than Tether but less than other cryptocurrencies. In 2019-20, NSE Nifty 50 has annualized risk of 26.96% while Ethereum has the highest risk at 95.23% and Tether has the lowest risk among all at 13.75%. During 2020-21, XRP has 133.04% risk which is the highest of all and Tether has the lowest risk 6.76%, NSE Nifty 50 has 22.08% risk during this year. NSE Nifty 50 has a 15.69% annualized risk in the year 2021-22, XRP has the highest risk at 134.26% and Tether has the lowest risk among all at 1.44%.

## Conclusion

We can analyze from the above data analysis that cryptocurrency is highly volatile compared to the Nifty Fifty stock market. As the data shows that cryptocurrency also provides high return than Nifty Fifty, in 2017-18 BNB has the highest return of 89127.59% at a risk of 224.73% whereas the market gave a return of 10.05% with a risk of 9.86%. But in 2018-19 cryptocurrencies went down and had given negative returns with the reduction of risk also, BNB still has a positive return of 149.57% at risk of 96.49% compared to Bitcoin and Ethereum with the returns of -27.50% and -41.37% at the risks of 61.65% and 95.07% while market gives the higher return compared to the earlier return of 14.75% at risk of 12.33%. In 2019-20 cryptocurrencies starts inclining at a slow pace and the market went down with a negative return of -23.62 % and a risk of 26.96%.

The year 2020-21 is the most incredible year for investors as both cryptocurrencies and the market (Nifty Fifty) show tremendous returns ever. Again, BNB gave the highest return of 4691.81% with a risk of 126.52% and the market shows a return of 82.75% with a risk of 22.08%. In the year 2021-22, there is again a decline in the return with positive returns.

Hence, we can conclude that both the markets are volatile in nature only the cryptocurrencies are

**Table 8 . Risk Analysis of Cryptocurrencies with the market (NSE Nifty fifty).**

| Year | NSE Nifty 50 | Bitcoin | Ethereum | BNB | Tether | XRP |
|---|---|---|---|---|---|---|
| 2017-2018 | 9.86% | 104.25% | 133.78% | 224.73% | 19.5% | 276.68% |
| 2018-2019 | 12.33% | 61.65% | 95.07% | 96.49% | 9.12% | 102.49% |
| 2019-2020 | 26.96% | 83.95% | 95.23% | 94.19% | 13.75% | 85.90% |
| 2020-2021 | 22.08% | 66.75% | 89.37% | 126.52% | 6.76% | 133.04% |
| 2021-2022 | 15.69% | 73.82% | 97.51% | 105.45% | 1.44% | 134.26% |

highly volatile and gives higher return as compared to the market which is more stable. A risk-averse investor should opt to invest in the market as the risk is known and stable in the market while those who can tolerate the risk and are fonder of higher returns can invest in cryptocurrencies.

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# A Study on Emerging Trends of Cybercrimes in India

**Swati Aggarwal***
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***Abstract:*** *Cybercrime usually involves the use of a computer as a target, a tool to target, or a small instrument within the target. Cybercrime is not just common in India, but it is also spreading internationally. The Indian government, as well as legislators and executors, have been attempting to curb cybercrime in India, yet it continues to spread across the country at a fast pace. In the Indian legal system, cybercrimes were addressed mainly under the Information Technology Act of 2000 and the Indian Penal Code (IPC). The present study compares the trend in cybercrime cases across the IT Act and IPC in several cities for a period of four years starting from 2016 to 2020. Between 2016 and 2020, data on cybercrime in 13 cities were obtained from the NCRB's official website. The study shows how cybercrime incentives differ city-wise via graphical depiction. Mumbai has the most cybercrime charges filed under the IPC, while Bengaluru has the most instances filed under the IT Act. To rein in those situations, one could claim that tighter limits are essential. However, policymakers should avoid adopting standard policies because the reasons for cybercrime events differ from city to city.*

***Keywords:*** *Cybercrime; NCRB; Indian Penal Code; The Information Technology Act, 2000.*

## Introduction

In today's fast-paced technological environment, new technologies are reshaping humanity's face. As the global usage of the internet grows, so does the crime linked with it, which is referred to as cybercrime. Cybercrime is typically committed by employing a computer as a target, a target to target, or a small tool in the target. Cybercrime is not only common in India, but it is also on the rise around the world. The security of technologies like mobile computing, cloud computing, online banking, e-commerce, and so on, has become a top priority since they store personally identifying information. Cyber security and the protection of important information infrastructures are vital to the security and economic well-being of any country. For both new service innovation and government regulation, making the Internet (and its users) safer is critical. A more comprehensive and secure strategy for cybercrime is needed. Law enforcement must be able to investigate and prosecute cybercrime since technology measures alone cannot prevent all crimes. To prevent data loss, many countries and governments are establishing strong cyber security regulations. To avoid becoming a victim of cybercrime, everyone should be informed on cyber security. Cybercrime was addressed by the Information Technology (IT) Act of 2000, the Indian Penal Code (IPC), and Special Acts and Local Laws (SLL). Offences reported under IT Act covers, tempering computer source documents, cyber terrorism, computer-related offences, interception or monitoring or decryption of information, publication/transmission of obscene/ sexually explicit act in electronic form, abetment to

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comment offences and attempt to commit offences, unauthorized access or attempt to access to protected computer system. While IPC covered offences such as cyber-stalking/bullying of children or women, abetment of suicide (online), data theft, frauds related to credit card/debit card, online banking frauds, OTP frauds, ATM frauds, cheating, forgery, defamation or morphing, cyber blackmailing or threatening, fake profile, counterfeiting and fake news on social media. The Information Technology Act of 2000 defines cybercrime as a penal act or omission. However, many offences that are included in the definition of cybercrime, such as defamation, threatening emails, and others, are punishable under the Indian Penal Code.

For the past few years, the Indian government as well as lawmakers and executors, are trying to curb cybercrime in India but it has been increasing. Most people don't know about cybercrime and they have been becoming a victim of cybercrime. There are many cities like Delhi, Bengaluru, and Pune that have become the major hub where most cybercrimes are being done and when a city come into the criminal's limelight, then the government set-ups the cyber cell for those states.

The government is constantly taking initiatives to reduce cybercrime from India but is still lacking in doing so. The laws which dealt with crime at workplace like Sexual Harassment (Prevention, Prohibition and Control) Act, 2013 included the offences committed by the colleagues like stalking, defamation, and harassment which are done online. The Information Technology Act, 2000 along with Indian Penal Code clearly mentions these punishments in various sections of the Act. Since cybercrime has no boundaries and can be committed by any means there is a need to wake up and work for one's safety at every place and every platform. Most Indians don't even know they have become a victim of cybercrime because they don't have adequate knowledge regarding such crimes.

## Objective of the study

IT Act and IPC are the two major categories under which the total number of cybercrime cases in India may be divided. Further, the no. of cases reported under these two categories do vary among cities. Thus, present research tries to fulfill the objective of comparing the trend in cybercrimes cases across IT Act and IPC, over the period ranging from 2016 to 2020 across various cities in India.

## Review of Literature

The Internet has been a vital part of worldwide communication for almost two decades and is progressively intertwined into people's lives. Internet availability, use, and performance have all improved dramatically due to industry breakthroughs and inexpensive prices, having around 3 billion global users presently (Tan et al., 2021). The Internet has developed into a multibillion-dollar worldwide network (Judge et al., 2021). Cyberspace is progressively being used by everyone from people to governments and political organizations for commercial, economic, social, cultural, and governmental activities and connections (Aghajani and Ghadimi, 2018). People spend a lot of time and energy here, as well as most media and financial activities (Priyadarshini et al., 2021). As a result, any instabilities, insecurities, or restrictions in this area would directly affect these parts of people's lives (Li et al., 2020).

Regardless, the internet has sparked new concerns about national security. Because of low entrance costs, anonymity, ambiguity of the risk geographical region, dramatic impact, and a lack of public transparency in cyberspace, cyber warfare has been carried out by both powerful and weak parties (Niraja and Srinivasa Rao, 2021). Traditional national security concerns, on the other hand, are more visible and involve criminals who can be tracked to a specific physical site (Sarker, 2021). Experts have been debating the effects of cyber-attacks for nearly a decade (Shin et al., 2021). Viruses that attack financial papers or disrupt the stock market; viruses that transmit false messages to power facilities, causing them to fail; viruses that disrupt the air traffic control system, causing accidents are all examples of serious and sometimes widespread economic or physical damage (Snehi and Bhandari, 2021; Ahmed Jamal et al., 2021). As a result, specialists will have a hard time dealing with the issue's many aspects and components, as well as providing legal guidance and analysis (Cao et al., 2021). As a result, the question of what qualifies as a cyberattack, what characteristics it possesses, and whether any cyberattack can be classified as a typical attack arises (Gupta Bhol et al., 2021). The legal environment will probably certainly be influenced by the lack of a broad definition of a cyber-attack, making it more difficult to continue and identify the repercussions of such an attack (Furnell et al., 2020). The lack of a thorough and unambiguous definition, without a doubt, obscures the most significant legal approach, as well as disparities in interpretation and practice, and, ultimately, frequently contradicting legal implications (Alhayani et al., 2021).

Since the definition and frequency of cyber-crime has broadened over the years, the notion has expanded into new dimensions as well. As a result, there is a need to investigate the various aspects of cybercrime.

Furthermore, when looking at India specifically, it was discovered that the level of cyber-crime differs at state level also. As a result, present study attempts to assess the shifting trend of cyber-crime across several states in India.

## Data and Methodology

The rate of cybercrime in India surged 344 percent between 2016 and 2020, attracting the attention of authorities and researchers. This massive growth can be due to a variety of factors. However, the same could not be generalized because statistics on cybercrime under the IT Act or the IPC varied across states and cities. As a result, in order to assess the causes of cybercrime in various cities from 2016 to 2020, data was gathered from the NCRB's official website.

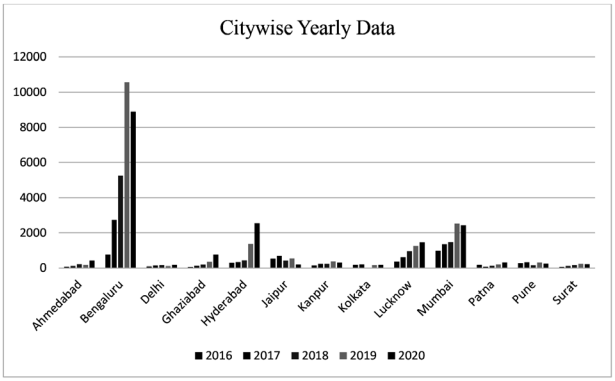
The NCRB released information on 19 major cities where cybercrime has been reported under the IPC or the IT Act. Table 1 summarizes the type of cases reported under IT Act, IPC and SLL, present study concentrates on the first two categories only as cases reported under SLL are few.

13 cities out of the 19 for the present study on the basis of average number of instances of cybercrime greater than 100 were chosen. Figure 1 displays the aggregate statistics for those 13 cities. The entire number of instances was divided between the IPC and the IT Act among 13 cities after the data was reduced to the required level. This is done to better understand the motives for cyber-crime city-wise, as aggregate numbers show that the number of incidents varies from state to state. In the following section, graphical and diagrammatic representation was made to compare the cities in terms of cyber-crime cases division under the IPC and the IT Act.

## Analysis and Interpretation of Results

First and foremost, using data from the NCRB website, the changing pattern of cybercrime among cities was examined. Figure 1 below depicts the number of such cases across cities and over time.

Figure 1 clearly shows that Bengaluru alone was responsible for the bulk of cybercrime instances over the period under study. Furthermore, it is obvious that the number of instances is increasing from 2016 to 2019 before declining in 2020. Following



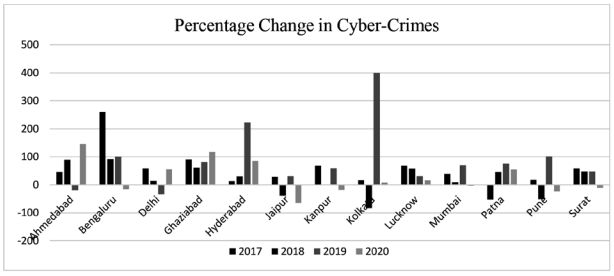

Source: Compiled by Author from data collected through www.ncrb.gov.in

Figure 1: City-wise Yearly Data on Cybercrime Cases

Bengaluru, Mumbai and Lucknow saw an upsurge in the number of cases. Hyderabad might also be regarded as a city that draws attention, as it has experienced a significant increase in 2019 and 2020. To verify and strengthen conclusions, Figure 2 depicts the percentage shift across cities from 2017 to 2020.

Table 1: Categories of Cybercrimes Reported

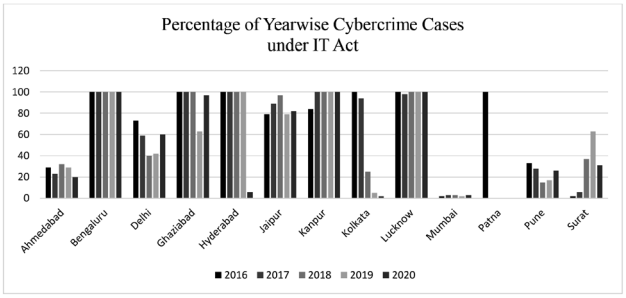
| Cases Under IT Act | Cases Under IPC | Cases Under SLL |
|---|---|---|
| • Tempering computer source document<br>• Computer related offences<br>• Cyber terrorism<br>• Publication or transmission of obscene/ sexually explicit act in electronic<br>• Interception or monitoring or decryption of information<br>• Unauthorized access or attempt to access to protected computer system<br>• Abetment to commit offences<br>• Attempt to commit offences<br>• Other sections of IT Act | • Abetment of suicide (online)<br>• Cyber stalking or bullying of women or children<br>• Data theft<br>• Fraud<br>• Cheating<br>• Forgery<br>• Defamation or morphing<br>• Fake profile<br>• Counterfeiting<br>• Cyber blackmailing or threatening<br>• Fake news on social media<br>• Other offences under IPC | • Gambling act<br>• Lotteries act<br>• Copyright act<br>• Trade marks act<br>• Other SLL crimes |




Source: Compiled by Author from data collected through www.ncrb.gov.in

**Figure 2: Percentage Change in Cyber-Crimes Across Cities**

As shown in Figure 2, data from 2018 to 2019 indicates that Kolkata has experienced the highest percentage gain in cybercrime cases. Some cities, like Mumbai, Lucknow, and Ghaziabad, experienced a positive percentage growth over the previous year, while the rest of the states experienced a mixed pattern. However, given that the number of cybercrime cases can be further subdivided between instances under the IT Act and the IPC, this explanation is insufficient. As a result, the present study conducted a more in-depth investigation and examine number of cases that fall under these two categories.

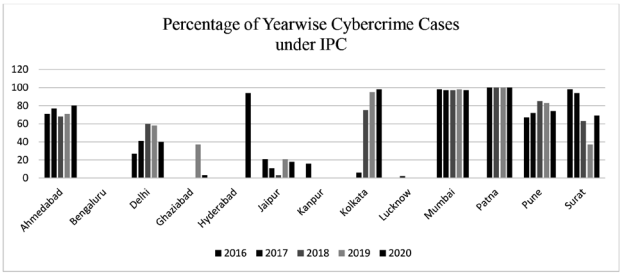



Source: Compiled by Author from data collected through www.ncrb.gov.in

Figure 3: Percentage of Yearly Cybercrime Cases under IT Act Across Cities

City-wise data clearly indicates that Mumbai has a small number of cases under the IT Act, while Patna only had instances under the IT Act in 2016. Initially, all cases in Kolkata were covered by the IT Act, but this number fall less than 1% in following years. The key cities where the IT Act covers most instances were Bengaluru, Ghaziabad, Hyderabad, Jaipur, Kanpur, and Lucknow.

Since, the IT Act and the IPC are two of the most common types of cybercrime in cities as revealed by the data the trend of cybercrime under IPC is examined across the cities graphical depiction in Figure 4.




Source: Compiled by Author from data collected through www.ncrb.gov.in

**Figure 4: Percentage of Yearly Cybercrime Cases under IPC Across Cities**

Figure 4 clearly depicts that during the study period there were no IPC cases in Bengaluru, Kanpur, or Lucknow. The majority of cases under the IPC were filed in Ahmedabad, Delhi, Kolkata, Mumbai, Patna, Pune, and Surat.

## Summary and Conclusion

As the global usage of the internet grows, so does the crime linked with it, which is referred to as cybercrime. Cybercrime is not just prevalent in India, but it is also on the increase globally. Cloud computing, mobile computing, e-commerce, online banking, and other cutting-edge technologies all demand a high level of security. Because these technologies retain personally identifiable information, their security has become a significant responsibility. Cyber security and the protection of crucial information infrastructures are critical to every country's security and economic well-being. The Indian government, as well as legislators and executors, have been attempting to reduce cybercrime in India for the past few years, yet it has continued to rise. The majority of individuals are unaware of cybercrime and have been victims of cybercrime. The Information Technology Act of 2000, as well as the Indian Penal Code (IPC), dealt with cybercrime in India. The rate of cybercrime in India surged 344 percent between 2016 and 2020, attracting the attention of authorities and researchers. This massive growth can be due to a variety of factors. However, the same could not be generalized because statistics on cybercrime under the IT Act or the IPC varied across cities. The present study compared the trend in cybercrime cases across the IT Act and the IPC for the period ranging from 2016 to 2020 in various cities of India.

For the period of 2016 to 2020, data about cybercrime in 13 cities was obtained from the NCRB's official website. The reported instances of cybercrime were divided between the IPC and the IT Act among 13 cities. The motive for cybercrime among different cities were examined using a graphical approach.

As can be seen, Mumbai has the largest number of cybercrime cases under the IPC category, whereas Bengaluru has the highest number of instances under the IT Act.

With the foregoing data, it is apparent that the number of cybercrime cases has increased many times over the world over the years. Following the same trend, the number of cases filed in India increased dramatically. As a result, strict regulations to control certain circumstances are required. Presently, India is dealing with cybercrimes through various ways such as appointing chief security officer for every government organization, audit of all government websites, implementation of crisis management plan by government organizations and critical sectors, organizing and conducting cyber security mock drills within the organizations, malware protection program through Cyber Swachhta Kendra and the approval of data protection bill for Indian citizens. Govt of India has taken many initiatives to protect its citizens from the evil of cybercrime through these important steps. Yet it has to look into the matter with the perspective of differentiating cybercrimes between IT Act and IPC, so that more targeted efforts should made to curb this growing evil. Policymakers should not, however, create standard policies because the grounds for cybercrime crimes vary city-wise. It is critical to first understand the different types of cybercrime before developing regulations and procedures, only then will it be effective in lessening cybercrime's wickedness.

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# Determinants of Webrooming and Showrooming Behavior: User-Generated Content Creation in the Omnichannel Era

**Badal***

**Ajai Pal Sharma****

***Abstract:*** *The aim of this study is to examine the characteristics of omnichannel customers in the context of webrooming and showrooming behaviour as well as to investigate through into relationships between channel integration and consumer intentions to purchase both online and offline. several devices and platforms are going to expect omnichannel firms as they are more aware and knowledgeable. Through keyword searches, access to more than 200 published research from a wide range of sources also achieved. More than 115 papers were considered to be relevant for more analysis. The majority of the papers originated from other countries and used structural equation modelling ( sem for analysis and establishing relationships between the significant determinants. based on an extensive review of the available literature on the omnichannel retail context in general, and webrooming & showrooming behaviour in particular, and analysis of these studies.*

***Key words:*** *Omnichannel, retail, webrooming, showrooming and multichannel*

## Introduction

Thanks to new technologies like the internet, robotics, and artificial intelligence, the area of consumer buying and purchasing is undergoing radical changes in the fluid retail environment. The decision-making process for consumers has multiplied and becoming more intricate. Retailers are making an attempt to remain up by giving customers a broad range of access alternatives for online and offline retail channel services.

The concept of selling across many channels or all popular channels without the ability of either the consumer or the retailer to establish channel interaction is known as multi-channel retailing (Beck and Rygl 2015). Where physical and digital channels are integrated, it creates a "omni-channel" experience for the client that enables them to use the channels whenever and wherever they prefer (Lazaris and Vrechopoulos 2014).

The flexibility to conduct business across all of these channels is referred to as omnichannel retailing. There are many different ways to conduct business. In order to be omnichannel, you need to accomplish more than sell on different channels. Here, we'll look more closely at the characteristics that set omnichannel and multi-channel retailing different. Currently, there are trillions more internet users than they were today. It is also envisaged that monthly mobile data traffic would surpass the current level. Similar growth is predicted for India's internet user base, which is expected to reach 666.40 million users in 2023. By 2022, 492.68 million individuals are expected to access mobile internet amongst them (Statista 2020a). India has become the second-largest consumer market in the world, and by the end of 2020, it is expected that its retail sector would have increased from US$600 billion in 2015. (Statista 2020a). With a CAGR of 44%, India's e-commerce industry is also the fastest-growing in Asia (Forrester Research Online Retail Forecast 2015 to 2020). Similar to online shopping, it is expected that mobile retail would generate US$63.5 billion by 2020.

Omnichannel stores, however, have accelerated

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their shift to the internet. According to a study by Fujitsu on the global retail industry's digital transformation, 39.8% of retailers are increasing their overall technology spending, with 37% identifying communication, networking, and the cloud as their top investment priorities. Having a cloud service alone is not sufficient. To succeed, retailers must combine data from several systems, including point-of-sale, e-commerce, ERP, and more. All of this data must be in motion and available to applications in real time in order to offer a fully integrated omnichannel user experience.

It's interesting to note that physical stores and internet retailers are no longer mutually exclusive. Nowadays shoppers use both offline and online choices to choose the best goods. By improving website design features like visual appeal and usability, one may effectively enhance and control online purchase intents and provide customers a more positive online experience (Kuhn and Petzer 2018). Similar to this, webrooming behaviour describes using online resources prior to making a purchase from a real store (Flavi et al. 2016). Real-time product availability is what most customers consider when choosing when to shop. Consistent experience, linked shopping, integrated merchandising, flexible fulfillment/returns, customised engagement, and enhanced, quicker, and unforgettable experience are the problems that still exist in the context of an integrated seamless experience (Dempski et al. 2019). Customers demand omnichannel fulfilment choices as retail transactions through digital contact points continue to increase.

In light of webrooming and showrooming behaviour, this article tries to examine the traits of multichannel shoppers. It also looks into the connections between channel integration and customers' intents to buy both online and offline. In addition, the study would help set the research agenda for future investigations and identify research gaps. To explain the sources of the facts given in the literature, including the geographic focus of academic discussions, a thorough assessment of the literature has been conducted along the lines recommended by Seuring and Gold (2012).

## Review of literature

Retailers and consumers have embraced technology quickly, changing how businesses interact with their clientele and enabling more individualised consumer decision-making and customer involvement (Grewal, et al., 2017). The value provided to customers is at the core of retailing and is a crucial success element. Studies have shown how crucial it is to provide a good customer experience that involves customers' cognitive, affective, emotional, social, and physical reactions to the products that shops are selling (Grewal et al., 2009; Verhoef et al. 2009). The majority of stores are currently undergoing the change to become omnichannel retailers, according to Cakir et al(2021) .'s study, "Omnichannel retailing: Digital transformation of a medium-sized retailer." An Irish company is striving to go from being mostly an offline store to a genuine omnichannel company. The firm wants to transform into an omnichannel retailer by utilising its strong expertise in traditional offline shopping and growing its clientele both domestically and internationally. The case gives a thorough breakdown of the company's problems, including those with strategy, operations, and technology. According to Verhoef's research on "Omni-channel retailing: some thoughts" from 2021, the COVID-19 epidemic has a significant impact on both the global economy and society. Retail is one of the sectors that has been most negatively affected. Particularly heavily impacted has been physical retail. Following the crisis, countries put laws in place to stop the corona virus from spreading. Due to social distancing policies, consumers are becoming less and less likely to go shopping, and some consumer groups (such the elderly) are frightened to leave their homes altogether. Additionally, non-essential physical retail locations were compelled to close for a while due to the government's lock-down procedures. The COVID-19 programmes have increased online business. Internet shopping was a major success in 2020 despite the demise of physical retailers.

In their study of "Consumer Behaviour in Omnichannel Retailing," Ozubuk et al. (2020) found that digitalization has significantly changed the retail sector. One of these phenomena is the development of omnichannel retailing. The majority of the study in this field focuses on the firms' perspective, despite the fact that omnichannel commerce has had a considerable influence on both enterprises and consumers. Academics are just now starting to pay attention to consumer research on multichannel commerce. Therefore, this research undertook a literature review of studies that looked at various consumer behaviours in order to better understand customer behaviour in the omnichannel retailing scenario.

Retailers are starting to establish new channel systems to respond to shifting market conditions and new information technologies, according to Lee (2020)'s study, "Unraveling Consumer Responses to Omni-Channel Approach." The rising demand for online sales forces traditional retailers to modify their

distribution strategies, which calls for a new degree of integration. However, setting up a successful Omni-channel system is fraught with challenges. The perceptions of customer value pose a significant challenge for firms. This research, which uses an empirical inquiry, addresses a gap in the body of knowledge on customers in the modern retail environment. This study reveals that in the current retail sector, omni-channel features have a major impact on customer happiness.

However, the study reveals that some Omni-channel features and consumer satisfaction do not appear to have any direct relationship. Some Omni-channel qualities have direct effects on customer satisfaction. Omni Channel Retailing: An Opportunity and Challenges in the Indian Market was examined by Hole et al. in 2019. Even though many retailers are using innovative OC marketing and sales approaches, from the perspective of the customer, these strategies only make up a small part of the whole brand experience. Through customer service, retailers have the power to strengthen or weaken consumer relationships with their brands. Customers can choose a brand that best meets their needs through customer service channels like SMS, social media, and screen sharing, but this decision raises serious problems from the standpoint of the brand experience.

Chopra(2018) studied "The Evolution of Omni-Channel Retailing and its Impact on Supply Chains" and discovered that Omni-channel commerce is the utilisation of several channels to engage with consumers and fulfill purchases. Information, product, and money are the three primary flows in the relationship between a consumer and a store. If the supply chain is properly managed, it may be both cost-effective and responsive to the demands of the client by using the complimentary qualities of online and physical channels. Because of the rise of Omni-channel commerce, retailers and their logistical demands will be significantly altered in the near future. Companies must thus be strategic when it comes to the architecture of their supply chain network, inventory location and kind, transportation method, and information role.

Yrjola et al.(2018) studied "Omni-channel retailing: propositions, examples and solutions" and discovered that customers aren't just a source of revenue; they're also integral to the process of creating value. To gain a strategic edge, merchants may build value co-creation possibilities with their customers since they represent the customer's connection to the marketplace. A competitive advantage may be gained via the development of new markets and the strengthening of existing client connections through the use of Omni-channel commerce. In order to provide a smooth cross-channel experience, omnichannel commerce may appeal to the variety in consumers' buying inclinations.

Simone & Sabbadin (2017) studied "The New Paradigm of the Omnichannel Retailing: Key Drivers, New Challenges and Potential Outcomes Resulting from the Adoption of an Omnichannel Approach " as well as how the retail mix is implemented and how consumers purchase as a result of the Internet's growth, mobile technology, and other forms of digital disruption. An increasing number of shops are taking use of the internet to market their goods and services. In addition to influencing customer behaviour, the development of channels and contact points has had a direct impact on the business models of organisations. Multichannel and omnichannel strategies have been developed by several merchants, who have begun to use additional channels to communicate with their consumers. Shoppers' use of new technology and how they transition between channels throughout the research and purchasing process are increasingly the focus of retailers.

Verhoef et al.(2015) studied "From Multi-Channel Retailing to Omni-Channel Retailing Introduction to the Special Issue on Multi-Channel Retailing" to learn how internet channels and increasing digitization have transformed retailing in the previous two decades. There are several retail markets where the internet channel has taken over and may be deemed a disruptive innovation. BOOKING.COM, EXPEDIA and TRIPADVISOR are examples of new internet businesses in the travel sector that are causing disruption among the established travel middlemen.

## Research Methodology

The current study's approach is divided into three steps. For review during the first phase, pertinent research articles were found. Using databases including SAGE, EBSCO, Emerald, Elsevier, Taylor & Francis, Wiley Online Library, and Google Scholar, academic publications published in peer-reviewed journals were searched. Multichannel retailing, omnichannel retailing, cross-channel retailing, showrooming, webrooming, and online retailing were the search terms utilised. More than 200 published papers in total were located. The second stage involved screening and critical evaluation of the accessible researches for relevance by thoroughly reading those articles. A total of 113 studies that were determined to be pertinent to the study issue were taken into consideration. The articles on logistics and

supply chain management were left out. The third and final step included a thorough investigation of the causes, effects, and drivers of customer behaviour in an omnichannel setting. the analysis showing the connections between the relevant variables. This study makes a serious effort to organise and synthesise the findings of other studies while providing a thorough review of the existing information on omnichannel marketing, showrooming, and webrooming. The paper also outlines the areas for future research and offers a research agenda for omnichannel retailing.

## The Journey of Retailing

**1. Single channel retailing.**

Other merchants, in contrast to omnichannel and multi-channel vendors, solely sell via a single channel. The Amazon marketplace, for example, serves as a platform for certain vendors, while others choose to operate their own online storefronts.

**2. Multi-channel retailing.**

Multi-channel commerce, like omnichannel, refers to selling on several platforms. Multi-channel experiences, on the other hand, are typically disjointed because of the absence of a clear cross-channel theme in marketing activities. By focusing on touch points rather than journeys, multi-channel philosophies aim to improve the customer experience. For businesses, enhancing individual contact points may be tempting, thinking that the whole is greater than its parts. But such specific intervention might accentuate disparities in service and inconsistencies across subsequent encounters.

**3. Omnichannel retailing.**

A real omnichannel strategy must provide a consistent brand experience across all of your sales channels in order to meet your consumers where they are and develop long-term connections. A focus on channel diversity and full data and system integration should also be included.

## Multi-channel to Omni-channel retailing

Cross-channel retailing is described by Verhoef et al. (2010) as the integration of specific customer data from the retailer's perspective, with an emphasis on the retailer's ability to manage some degree of integration between the channels. The actions involved in selling goods or services over many channels or all popular channels where a client can initiate a limited channel contact are referred to as cross-channel commerce (Beck and Rygl 2015). On the other hand, omnichannel commerce is the interaction and fusion of the three channels—a physical store, an internet store, and a mobile shop (Brynjolfsson, Hu, and Rahman et al. 2013). Multi-channel customer management is the seamless experience and interface that customers receive across channels, according to Neslin et al. (2006). The modern consumer is more inventive, price-conscious, and likes shopping when they use numerous channels to purchase more than those who just use one (Konus, Verhoef, and Neslin 2008). In actuality, the integration of cutting-edge technology like augmented and virtual reality into omnichannel settings may strengthen customer lock-in. The distinction between offline and online channels is becoming blurred and may eventually vanish as the business transitions to an omnichannel environment, notwithstanding the virtues of both physical and online stores (Brynjolfsson, Hu, and Rahman 2013). Neslin et al. (2006) noted that as omnichannel commerce spreads, buyers may use one channel for product research and shopping while making a purchase through a different channel. According to research (Verhoef et al. 2007, Gensler, Verhoef, and Bohm 2012), when customers move through phases of the purchasing process, they switch channels to optimise the advantages of buying. This cross-channel free-riding customer behaviour can be traced to the expansion of marketing channels and advancements in the internet space (Chiu et al. 2011).

## Webrooming and showrooming

According to Flavian, Gurrea, and Orus (2016), webrooming behaviour refers to customers visiting an online business before making an offline purchase. Perceived advantages of online shopping, perceivable advantages of online searching, and e-distrust all influence attitudes about webrooming (Ou and Sia 2010). They reduce the options before deciding to finish the purchasing procedure at a real store (Wolny and Charoensukasai 2014). While in-store, buyers can utilise mobile technology to assess items for possible purchase through a variety of channels while showrooming, which is the act of evaluating products or services first. The companies are finding it harder to regulate the client experience and the journey as a whole due to the expansion of consumer touchpoints, which has led to the rising importance of showrooming (Brynjolfsson, Hu, and Rahman 2013; Rapp et al. 2015).

It is necessary to learn more about the phenomena of showrooming and webrooming within the context of the consumer journey. To discover the possibilities that affect the trip, businesses have been working to customise customer journeys

and engage customers (Lemon and Verhoef 2016). Future research presents exciting potential based on studies including customer-focused components like customer experience, customer engagement, customer personalisation, and their relationships with post-purchase behaviours. Recent study has recognised the ubiquity of the showrooming and webrooming problem. Few researches have outlined the variables affecting buyers' showrooming and webrooming intentions.

The COVID-19 epidemic has had a negative effect on physical retail shops that rely largely on foot traffic (Hwang, Nageswaran, and Cho 2020). However, as a result of the channel shift from offline to online, online merchants have seen a rise in sales. Online purchasing is more popular than ever right now (Torry 2020). It was observed that both new and existing consumers now have a greater predisposition to make purchases online due to concerns about their health and safety. Due to the pandemic's interruptions, the capacity of omnichannel businesses to fulfil online orders is another crucial factor that has to be researched.

The Benefits of an Omnichannel Retail Approach

It is advantageous to use an omnichannel approach in retail for a variety of reasons, including:

- **Increase in sales and conversions**

Consumers are very little chance of quitting their carts and more possibility to check out with a higher cart size if the checkout process is smooth. This may be done by sharing data across all of your platforms. Loyalty apps that are seamlessly connected with both online and bricks and mortar locations may encourage repeat purchases by making it easy for users to earn and redeem points.

- **Meet customers' online needs**

If you don't provide a smooth user experience, customers won't remain around, and you won't be able to retain them. Customer-facing and back-end systems should be integrated to make it easier for customers to locate and buy what they want. It may also be used to market items based on data that has been supplied.

- **Adapt to changing trends in technology usage**

Retailers must be able to react to changing consumer tastes as technology evolves. Customers may expect a consistent experience across all channels and devices when using an omnichannel strategy.

Approaches to omnichannel strategy for maximize the benefits

- **Improving existing consumers retention**

Consumers who are more likely to make a second purchase from your company if they can engage with your brand across many linked channels. As an example, they may have visited a physical location and had a positive experience, which increases their likelihood of making a purchase from your online shop when you remind them through social media, email, text sms and other form of advertising.

- **Flow of Information through various channels**

By collecting the information and data from various channels, you can make better decisions by taking use of all the information your consumers provide you. For example, product procurement and display may be improved with the use of website analytics centering on clicks and searches. Inputs of sales reps' in-person may be put to use to inform for sense of future marketing campaigns and exaltation, as well.

- **Improved attainment**

Consumers can receive and return items via both shipping and in-store channels by bridging sales channels. Customers will like the ease of use, and it might save them money by reducing shipping and return processing costs.

- **Omnichannel in Action**

Retailers and companies throughout the globe are adopting omnichannel strategies. Here are a few companies that have effectively implemented omnichannel processes.

- **Increasing Sales in a Declining Market**

Montreal is home to Primeau Velo, the biggest bicycle retailer in Canada. Early in 2019, the brand discovered itself in a market that was collapsing quickly after a sharp reduction in sales and profits. To take charge of the problem, Primeu Velo decided to use their own omnichannel strategy. The company's overall business strategy and operations included integration of e-commerce, enterprise resource planning (ERP), and accounting. Through a seamless customer care experience, customers may immediately engage with the firm via several channels, including their email and website, customer support centre, chat, in-store, and mobile applications. For instance, they discovered that chat sessions initiated by customers had a high 30% conversion rate and that 20% of their in-store customers had spoken to a staff before entering.That year alone, Primeau Velo had a 27% growth in sales.

- **Revolutionizing a Digital Business**

Founded in 1960, Rural King is an American agricultural supply shop that has been servicing the

Midwest since then. Many clients utilise Rural King's online shop to research and buy unique items in order to keep their businesses functioning. Handling Rural King's millions of consumers, both in-store and online, grew more challenging.

## The Four-Pillar Approach to Omnichannel Commerce

Sales channels, marketing and advertising, operations and fulfillment are the four pillars of a successful omnichannel strategy. The ideal omnichannel user experience can only be achieved if all of these services operate together flawlessly.

**1. Sales channels.**

With so many options for selling, you'll need to consider your target market and where they spend the majority of their time, as well as where similar items are commonly offered.

*Different type of channels can include:*

- "Social media platforms
- DTC ( direct to consumers advertising)
- Online store
- Ecommerce marketplaces like Amazon, eBay, Wal-Mart
- Mobile channels via websites, email, SMS and MMS
- Brick-and-mortar stores — or anywhere you use a POS (next to the checkout area)
- B2B( Business-to- Business)
- Wholesale sales"

According to Sharon Gee, general manager of omnichannel at Big Commerce, the COVID-19 outbreak has left many retailers in a difficult position since they have overextended themselves on one channel to sell their goods or products. However, because omnichannel sales are fundamentally risk-reduction tactics, they have reassuring characteristics. It enables business owners to ask, "Where are my customers, and how can I reach them?" before making necessary adjustments.

**2. Marketing and advertising.**

Omnichannel marketing is essential for even the finest items and the best websites, since buyers don't just stumble upon your stuff. A consistent brand experience and the appropriate message at the right time may make a big impact to your bottom line..

The following are some of the best digital marketing and advertising platforms for shops in the future:

- Platform of Social media
- Marketplace advertising
- Shopping Advertisement on Google
- Retargeting advertisement or Retargeting campaigns
- Through Email, SMS, MMS

**3. Marketing and their operations.**

Operations includes types of items, packing, labelling, orders, inventory management, logistics, and fulfilment. An omnichannel strategy needs to be integrated in order to be effective. Your company's size and complexity will determine the specific technology used in your back-office activities. Inventory visibility is a problem for omnichannel inventory management. Without it, you won't be able to accurately alert customers or ensure that products will return to stock across all platforms. Additionally, you need consolidated inventory visibility as you grow into new channels so that you can continue to optimise your demand and supply chain.

**4. Transportation, Shipping and accomplishment**

When it comes to shipment and fulfilment, the majority of retailers either have their own in-house shipping facilities or a third-party logistics (3PL) facility firm. Some of the capabilities of shipping software include the ability to submit orders to order fulfilment companies, reporting, visibility into delivery statuses, and specially negotiated shipping rates. 3PLs frequently undertake extra logistical tasks including transportation in addition to inventory management, storage, and fulfilment. "Most people assume that the technical element of e-commerce is execution and logistics, but in basic terms it's the customer experience and their added expectations," explains Matt Crawford, general manager of shipping at Big Commerce.

## Steps in Building the Strategy of Omnichannel Retailing

A tailored customer experience across all sales and marketing channels is another way to describe this operation as part of the omnichannel blueprint approach. Since they are designed from the ground up to satisfy the particular demands of the businesses who adopt them, omnichannel strategies are distinctive to each firm. As a consequence, your operations will be customised to meet your unique requirements. These seven steps might serve as a general process blueprint, nevertheless.

**1. Segment your customers.**

There are many methods to divide up your consumer base, and you'll have to figure out which one is most effective for your company. Targeting specific segments of your target market, sometimes referred to as market segmentation, allows you to better tailor your product and service offerings to each one.

**2. Find out Which Channels Customer segment Use.**

Think about purchasing a gold watch. There are several places to look for the kind of watch you want. If you are interested in buying a pre-owned, vintage, or unique watch, kindly enquire. Consider checking out eBay. If your style is more modern and fashion-forward, Instagram may be a fantastic place to explore for inspiration. Look no farther if you're searching for the most expensive things. Before making an online purchase, think about going to a jeweler's shop to see and handle their items in person.

Every product aiming at any market will exhibit this. Understanding how consumers behave and act, where they search and browse, where and how they buy, and who motivates them to buy at the correct time is necessary for marketing to them. Combining qualitative and quantitative data may be advantageous for your most important channels. By speaking with your clients directly, you may discover a lot about them. On the other hand, tracking KPIs will finish the picture in your head. Analyze your data to determine which of your channels is the most profitable, successful, and/or efficient in attracting new customers. Put all of your effort into ensuring that your customers get the finest possible purchasing experience across all of your channels.

**3. Map the customer journey.**

"Though, customer expedition aren't uncomplicated and linear, while it is a link and a series between traditional and digital channels that can be very different from customers type, a successful strategy demands an in-depth knowledge of what consumers genuinely want," this McKinsey paper reaffirms."

**4. Provide cross-channel customer support.**

Customers now expect to be able to shop whenever and whenever they want, and that extends to customer service as well. The more channels you have, the more important it is that you can give customer assistance regardless of whether they're on their phone or using Facebook Messenger to get in touch with your business. Your clients may become more loyal to you if you provide them with the kind of service they can rely on.

**5. Integrate your technology.**

When it comes to integrating your technology, inventory is one of the most fundamental reasons. You'll need a real-time view of your entire inventory when you begin selling on different channels. Additionally, you'll need a central repository for product data, such as a PIM or equivalent solution, so that you don't have to manually input product details for each channel where you sell. Unifying your data across different channels is easier with a tool like Feedonomics.

**6. Make testing a habit.**

Prior to a product's official launch, testing isn't a one-and-done process. If you're embarking on an omnichannel journey, testing should be a continuous, methodical process in your firm. Having data at every contact point is essential to make the right choices for your organisation. Therefore, a platform that provides solutions which make it simple to collect all the sources of your data and extracted from it.

## Analysis and results

The research articles on omnichannel commerce and related topics made up around 40% of the total. Many reputed journals, including International Journal of Retail & Distribution Management, Journal of Retailing and Consumer Services, Journal of Internet Commerce, Journal of Direct, Data and Digital Marketing Practice, and others have published the majority of research articles in this area. Journal of Interactive Marketing, Asia Pacific Journal of Marketing and Logistics, and several more publications each published two articles. The study article on omnichannel retailing has also been published in several prestigious publications, including Journal of Business Research, International Journal of Electronic Commerce, Journal of Consumer Behavior, and Journal of Retailing.

Research on customer behaviour in the omnichannel environment has generally been done in a number of different countries all over the world. But the United States of America, where the most research papers have been published to date, seems to have more academics interested in the area of study. As a result, American academics are well ahead of those from other western countries in the studies on the digital environment in comparison to Asian nations. Other Asian nations are also showing an increasing interest in this area of study. A large number of these research included college students as their sample. Many researchers have preferred customers who visit their brick-and-mortar locations or online buying platforms. The sample components in the majority

of the study publications included a mix of various demographic characteristics, including age groups, genders, and levels of income.

## Discussion

Over the past ten years, several research across a variety of subjects have been done and have since been published in numerous reputable publications. The main antecedent, result, and moderator/mediator variables are thought to be important factors that influence showrooming and webrooming behaviour that were found in the current study. The study has significant marketing implications that may be used to design suitable channel strategies for value creation as well as greatly assist in reducing the negative consequences of the showrooming and webrooming phenomena. In order to prevent showrooming, managers need to solve issues like product returns and delivery delays (Bell, Gallino, and Moreno 2018) and give customers opportunities to see the items they want to buy. They should be well-versed in the customer's point of view when purchasing. Similar to this, managers must obtain a deeper understanding of consumer navigation patterns at single- and multichannel retail touchpoints and work to increase the perceived advantages of offline buying (Arora and Sahney 2018; Goncalves and Raatikainen 2016). The introduction of a new single-brand shop has been found to promote showrooming behaviour (Rapp et al. 2015; Brynjolfsson, Hu, and Rahman 2013), which in turn increases online purchases (Bell, Gallino, and Moreno 2018). Therefore, the management must carefully consider the money produced by online shoppers against the revenue that is lost as a result of a price-matching strategy (Dorman 2013). (Mehra, Kumar, and Raju 2018; Wu, Wang, and Zhu 2015). Despite the fact that numerous researches on omnichannel customer behaviour have been carried out in India, they are insignificant when compared to studies done in the USA and UK. More similar studies are required to obtain deeper insights because the study conclusions reached in the setting of developed economies cannot be presumed to be immediately relevant in the case of a country such as India.

## Limitations

Similar to past research of a similar nature, the current study has some drawbacks. The headlines and keywords of research publications were predominantly used in the search process. Thus, it's possible that certain studies were left out during the process. The results of omnichannel research and emerging trends like showrooming and webrooming varies across country. For various consumer demographics, they have used different techniques (Fornari et al. 2016; Park and Lee 2017; Mosquera et al. 2018; Nesar and Sabir 2016). Therefore, it is impossible to draw broad conclusions from the data about the causes and effects of shifting consumer behaviour. Furthermore, the present study was unable to define an uniform omnichannel model that can be used across a variety of cultures, geographies, and scenarios due to the diversity of studies in the field of omnichannel retailing.

## Future research directions

The study offers a variety of prospective omnichannel retailing research topics. Customer value generation must become the primary emphasis of omnichannel retail environment researchers. Our analysis of the existing literature indicates areas that require further research. More research is needed in the areas of developing strategies to control showrooming and webrooming behaviour, potential causes of such phenomena, the stack of technologies that facilitate omnichannel shopping, and developing customer experiences in an omnichannel environment.

## Conclusion

With an emphasis on the omnichannel environment, the existing literature on showrooming and webrooming phenomena has been examined in the current study. The study's key contribution is to give a simplified picture by fusing the relevant knowledge and ideas. Consumer purchasing journeys may be greatly influenced by the linkages between customer-focused notions including customer experience, customer engagement, and customer satisfaction. This article provides deeper understandings of the showrooming and webrooming phenomena as well as factors influencing customer behaviour in an omnichannel setting. Omni-channel retailing, which combines mobile, bricks-and-mortars, and e-tailing, is the future of e-commerce. In light of this new reality, brick and mortar stores and e-tailers must reevaluate their strategies and business models if they are to succeed. Both traditional retailers and online retailers are looking for fresh approaches to enlarge their markets, which is why they are looking into a range of options for developing a brick-and-mortar presence. A strong customer experience requires the seamless integration of corporate operations and customers. Online channels have been integrated more lately despite previously being seen as separate from the bricks-and-mortar paradigm. No matter where they are within the retailer's network, customers require

information on stock levels, delivery schedules, and shipping options. Whether they are making a purchase in-person, online, or via a mobile device, customers want the same level of service and information availability. In order to maintain their business, omnichannel merchants must be alert to substantial shifts in retail customer behaviour such channel switching, evolving internet usage, and interruptions in delivery services.

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# Financial Management Behavior: A Descriptive and Network Analysis

**Deepa***
**Barkha****

***Abstract:*** *Nowadays, managing one's personal finances is of the utmost importance because of the complexity of financial possibilities, lax lending regulations, and the need for one's own social security planning. As well as various researcher are taking an interest in researching this topic. Therefore, the purpose of this paper is to analyse the publication trend, descriptive analysis using the h-index, g-index, and hI- norm, hI-annual, and hA- index, as well as network analysis using the keyword co-occurrence analysis and citation analysis of financial management behaviour research. The result of the study depicts that financial management behavior is an emerging topic. The three labels provide in this study with the help of network analysis gives information about the type of work done on this topic. The result of this study helpful to the policy maker, academicians and researcher in formulating research question for the future research.*

## Introduction

People own significantly more money in today's modernised age with all aspects of progress than in the past. The goals of a person's life are influenced by their general and financial stability (Boon et al., 2011). Due to the rising cost of living, the complexity of financial decisions, the liberalisation of credit, and changes to social security, it is also imperative that individuals organise and manage their money in their own best interests. Financial management is a complex combination of behaviour and decisions that can change depending on the importance and complexity of the behaviour as well as the people's abilities, skills, and chances to carry out such behaviour. "The process of assimilation of all elements of an individual's financial interests is known as personal financial management behaviour (PFMB). These include risk management, retirement planning, investment management, tax planning, and estate planning " (Altfest, 2004). An efficient FMB would give people a feeling of security and, eventually, financial freedom (Individual financial management mistakes may have a noteworthy long-term effect). Inadequate financial management practices have negative short-, mid-, and long-term effects on people as well as their households, which might ultimately result in a variety of undesired occurrences for the entire community. Poor financial decisions, which are the result of both economic and psychological problems, can lead to short-term or long-term debt, the inability to pay utilities, or the filing of a bankruptcy. This concept can be extended to both amateur investors and professionals who work for firms that handle money. In reality, it's critical to have a long-term financial strategy in place as well as to be aware of and prepared with a variety of investment and saving options. Financial planning is an exceptionally crucial knowledge and ability because individuals are living longer and need to save for their later years when they are not employed.

The idea of perceived financial well-being, which is based on consumer financial narratives, is defined as concern about present money and confidence in accomplishing future financial objectives. Financial decision making requires more than just creating a daily family budget. It also entails investing and saving money to create a safeguard for future costs, whether they are predictable (such as paying for a home, a vehicle, or a college degree) or unforeseen (such as a job loss or health concerns), as well as planning ahead to ensure stress-free post-

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retirement years. The term "Financial Management Benchmarks" (FMB) refers to a collection of multifaceted behavioural indicators that are used to plan, carry out, and assess choices pertaining to household income and cash flow, credit, savings and investments, insurance, retirement and estate planning, and financial management. Personal finance is a vibrant multidisciplinary area that spans several academic disciplines, including psychology, sociology, finance, economics, information technology, and family studies. Each discipline has a variety of theories that present various viewpoints on the monetary behaviour and management of individuals and households. Additionally, experts, teachers, the government, and legislators work to create programmes that emphasise delivery of information and assist "rational human beings" in becoming able to better manage their money. However, behavioural economics, a branch of economics and psychology, supports the role that psychological factors play in determining a person's financial decisions. Taking on excessive debt, not saving enough, and participating in aggressive trading are some illogical actions that lead to "sub-optimal" decisions. Demographics (Allgood and Walstad, 2013), socioeconomics (Gorniak, 1999; Grable et al., 2009), social factors (Shim et al., 2009), FL (Lusardi and Mitchell, 2007), social factors (Shim et al., 2009), technological factors (Lusardi and Mitchell, 2007), and other factors are significant additional variables that affect individual financial behaviour. Financial literacy is defined as having the "knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life," by the Organization for Economic Cooperation and Development (OECD), (OECD, 2014).

## Research Methodology

The bibliometric analysis provides network and descriptive analyses of concepts. The descriptive analyses include a thorough review of the entire body of literature, citation statistics, and other key details. In addition to h-index, g-index, and hI- norm, hI annual, and hA- index are useful for determining the productivity of writers and journals (Ding & Cronin, 2011). The h-index is typically defined as the number of publications having at least h citations, the g-index as the number of highly cited articles with at least g2 citations, and the m-index as a composite of both h and g. In addition to descriptive analysis, network analysis made use of the publication's co-occurrence and bibliographic co-citations. Figure 1 gives an overview of the methodology adopted in this study.

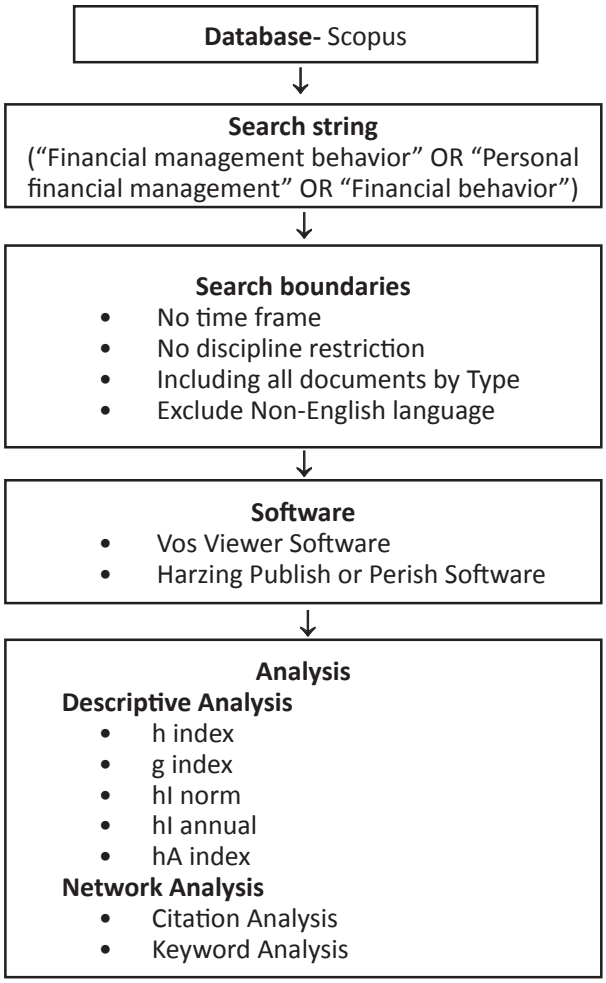



**Figure 1- Overview of Methodology**

### Selection of Database

In this study, we used the Scopus database to retrieve the related studies. Scopus is the most significant and extensive database of research work (Ahmi&Mohd Nasir, 2019). The database provides information about publications, including the year, source type, subject, author name, document type, source title, access type, keywords, country, language and affiliation. In this study, to pinpoint the pertinent scholarly publications on the subject under consideration, we narrowed our search for web accessibility studies based on their titles

### Preparing data for analysis

To fulfil the software need, data were retrieved in plain text format from Scopus. Documents were chosen on July 28, 2022, depending on the search criteria. The title, abstract, or keyword list contained the phrase ("Financial management behaviour" OR "Personal financial management" OR "Financial behaviour"). The result of the search string reveals that 389 publications were published from 1969 to 2022. Out of 389 publications, 322 are Articles, 27

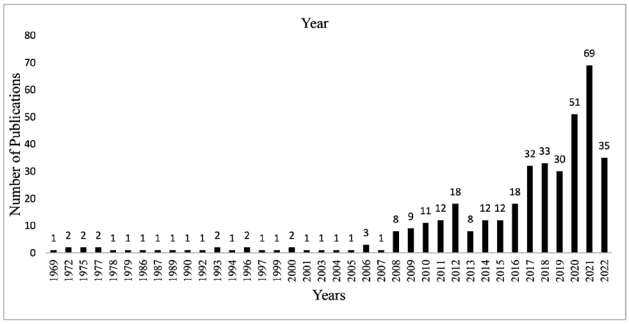



**Figure 1: Trends of Publications**

Book Chapters, 27 Conference Papers, 11 Reviews, one Book and one Letter. However, there is a lack of publication in the form of Editorials, Erratum, Retracted, Short Survey, and Data Paper.

### Selection of Bibliometric tool

This study uses Vos-viewer software to study the underlying structure of keywords. The VOS viewer graphically depicts the nodal network with the help of two standardized weights, such as links and strength of links. The size of the interlacing lines linking the nodes as well as the size of the nodes, indicate the strength and importance of the relationships.

## Result

The result of this analysis consists of information about the Document by Type, Source Type, Language, Subject Area, top Country, most productive Institute, most productive authors, number of authors in publications, keywords analysis, citation analysis of the retrieved documents, including their frequencies and percentage in total publications. In addition, this analysis gives information about the top 10 publications according to the GS ranking of the papers.

### Evaluation of Financial Management Behavior research

Figure 1 deficits the evaluation of the research on financial management behavior. In 1969 the first publication entitled "Some Aspects of the Financial Behaviour of County Boroughs" was published and was authored by "OLIVER, F.R., STANYER, J." in the "Public Administration" journal. However, the number of studies was minimal till 2019. After that, the publication increases drastically. As on 28 July 2022, the number of publications in 2022 is 35. These trends indicate that the research on financial management behavior is in its developing stage.

### Information about Documents by Type

This analysis reveals that there are six types of documents published related to financial management behavior, namely letters, books, reviews, conference papers, book chapters, and articles. Out of 389 publications, 322 are articles that are 82.73% of total publications, followed by the book chapter and conference paper with 27 (6.96%) publications. However, reviews, books, and letters are minimal, 2.83%, 0.26%, and 0.26% of total publications. This information depicts that the research on financial management behavior is in its growing stage.

**Table 1:** Document by Type

| Document by Type | Number of Publications | Percentage of Publications |
|---|---|---|
| Articles | 322 | 82.73% |
| Book chapter | 27 | 6.96% |
| Conference paper | 27 | 6.96% |
| Review | 11 | 2.83% |
| Book | 1 | 0.26% |
| Letter | 1 | 0.26% |
| Total | 389 | 100% |

### Information about Source Type

Figure 2 depicts that the last nine years have been very productive in the research of financial management behavior. The number of publications from 2014 to 2022 compared to 2005 to 2013 increased by 228 publications. However, in the initial periods, the Book, Conference Proceedings, Book Series, and Trade Journals are very low. Moreover, detailed information on a number of publications of Journal, Book, Conference Proceeding, Book Series, and Trade Journal are given in table 2.

Table 3 demonstrates six different sorts of sources. The most common source type is a journal (85.86%), followed by conference proceedings (5.91%). Books, trade publications and book series also contributed to the total number of papers, accounting for 5.40%, 2.58%, and 0.25%, respectively.

4.4 Information about the language of the publications

According to Table 4, the significant number of the retrieved articles were written in English (95.88%), followed by Russian (1.54%) and French (0.77%), and Spanish (0.77%) languages. The most infrequent languages used in the publications retrieved are Dutch, Italian, Lithuanian, Polish, and Portuguese.

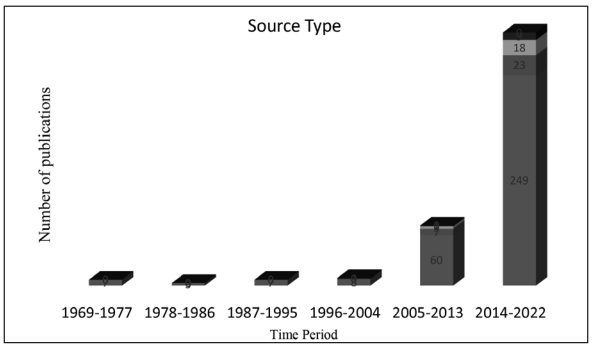



**Figure 2: Year-Wise Distribution of Source by Type**

**Table 2 Year-Wise Distribution of Source by Type**

| Year | Journal | Book | Conference Proceeding | Book Series | Trade Journal |
|---|---|---|---|---|---|
| 1969-1977 | 7 | 0 | 0 | 0 | 0 |
| 1978-1986 | 3 | 0 | 0 | 0 | 0 |
| 1987-1995 | 7 | 0 | 0 | 0 | 0 |
| 1996-2004 | 8 | 0 | 0 | 0 | 1 |
| 2005-2013 | 60 | 7 | 3 | 1 | 0 |
| 2014-2022 | 249 | 23 | 18 | 9 | 0 |

**Table 3: Source by Type**

| Source Type | Number of Publications | Percentage of Publications |
|---|---|---|
| Journal | 334 | 85.86% |
| Book | 23 | 5.91% |
| Conference Proceeding | 21 | 5.40% |
| Book Series | 10 | 2.58% |
| Trade Journal | 1 | 0.25% |
| Total | 389 | 100% |

**Table 3: Language of the Publications**

| Language | Number of Publications | Percentage of Publications |
|---|---|---|
| English | 372 | 95.88% |
| Russian | 6 | 1.54% |
| French | 3 | 0.77% |
| Spanish | 3 | 0.77% |
| Dutch | 1 | 0.25% |
| Italian | 1 | 0.25% |
| Lithuanian | 1 | 0.25% |
| Polish | 1 | 0.25% |
| Portuguese | 1 | 0.25% |
| Total | 389 | 100% |

### Information about the subject area of the publications

In addition, the current paper organises the published works by subject area. The bulk of research on financial management behavior was conducted in the fields of Economics, Econometrics and Finance for 221 or 56.81% of all papers, followed by Business, Management and Accounting (130, 33.41%), social science (109 or 28.02%), and Psychology (70, 17.99%). Table 5 lists additional subject areas explored in financial management behavior research.

### Most productive country

Sixty-eight countries contributed to the research of financial management behavior. The top 10 nations contributing to the literature on financial management behavior are listed in Table 6. The USA is at the top with 131 publications, followed by India (27), Indonesia (26), and Malaysia (24). The United States ranks highest in total citations per country with 4499, followed by India (117).

**Table 5: Subject Area of the Publications**

| Subject Area | Number of Publications | Percentage of Publications |
|---|---|---|
| Economics, Econometrics and Finance | 221 | 56.81% |
| Business, Management and Accounting | 130 | 33.41% |
| Social Sciences | 109 | 28.02% |
| Psychology | 70 | 17.99% |
| Computer Science | 29 | 7.45% |
| Engineering | 28 | 7.19% |
| Medicine | 21 | 5.39% |
| Environmental Science | 17 | 4.37% |
| Arts and Humanities | 15 | 3.85% |
| Decision Sciences | 11 | 2.82% |
| Energy | 11 | 2.82% |
| Mathematics | 10 | 2.57% |
| Multidisciplinary | 7 | 1.79% |
| Biochemistry, Genetics and Molecular Biology | 6 | 1.54% |
| Agricultural and Biological Sciences | 4 | 1.02% |
| Neuroscience | 4 | 1.02% |
| Earth and Planetary Sciences | 3 | 0.77% |
| Pharmacology, Toxicology and Pharmaceutics | 3 | 0.77% |
| Materials Science | 2 | 0.51% |
| Chemical Engineering | 1 | 0.29% |
| Chemistry | 1 | 0.29% |
| Physics and Astronomy | 1 | 0.29% |
| Veterinary | 1 | 0.29% |
| Total | 389 | 100% |

**Table 6: Top 20 Country**

| Country | Number of Publications | Percentage of Publications | Citations |
|---|---|---|---|
| United States | 131 | 33.67% | 4499 |
| India | 27 | 6.94% | 117 |
| Indonesia | 26 | 6.68% | 93 |
| Malaysia | 24 | 6.16% | 117 |
| Russian Federation | 19 | 4.88% | 18 |
| United Kingdom | 19 | 4.88% | 169 |
| Turkey | 14 | 3.59% | 244 |
| China | 12 | 3.08% | 41 |
| Netherlands | 12 | 3.08% | 797 |
| Canada | 10 | 2.57% | 119 |

### Most productive institution

Seven hundred forty-nine institutions contributed

to the research of financial management behavior literature. The top ten institutions published on financial management behavior are shown in Table 7. However, all institutions listed below-having a number of publications are two, but in comparison of citations, Hacettepe university of Turkey is on top, followed by the University of Florida in the United States and Spiru Haret university of Romania.

**Table 7: Most Productive Institution**

| Institute | Country | Total publication | Total Citation |
|---|---|---|---|
| University of Alabama | United States | 2 | 37 |
| Hacettepe university | Turkey | 2 | 198 |
| University of Rhode Island | United States | 2 | 12 |
| Universiti Teknologi mara | Malaysia | 2 | 19 |
| Tarumanagara University | Indonesia | 2 | 19 |
| Universiti Teknikal Malaysia | Malaysia | 2 | 14 |
| Mykolas Romeris University | Lithuania | 2 | 19 |
| University of Wisconsin–Madison | United States | 2 | 22 |
| Spiru Haret university | Romania | 2 | 45 |
| University of Florida | United States | 2 | 50 |

### Most productive authors

This research also examines the most productive authors who have contributed to the field of financial management behaviour research. For this purpose, we choose the form of analysis, "Citation", and the unit of analysis is "Author", having a minimum number of publications is "5". Table 8 gives the list of top authors contributing to the literature on financial management behavior and additional Information about total publications, citation per paper, total citations, authors per paper, citation per year, h index, hI norm, g index, hA index and hI annual. Based on the table, Shim S. is on the top with 12 publications, followed by Serido J., Kim J.

The number of authors per article is shown in Table 9. Only 21.07% of the total documents were single-authored, while 307 (78.16 %) were multi-authored. However, out of 389 publications, the authors of 3 publications are undefined by Scopus.

**Table 9: Number of Authors in Publications**

| Number of Authors | Number of Publications | Percentage in total Publications |
|---|---|---|
| 0 | 3 | 0.77% |
| 1 | 82 | 21.07% |
| 2 | 107 | 27.50% |
| 3 | 107 | 27.50% |
| 4 | 49 | 12.59% |
| 5 | 20 | 5.14% |
| 6 | 14 | 3.59% |
| 7 | 4 | 1.02% |
| 8 | 2 | 0.51% |
| 9 | - | - |
| 10 | 1 | 0.25% |

### Keyword Analysis

The authors' keywords were mapped using the VOS viewer software designed to build and visualise bibliometric networks of the documents. Figure 2 visualize the keyword analysis of the publication. For this purpose, the form of analysis is "co-occurrence", and the unit of analysis is "all keywords", with the minimum occurrence of a keyword is five times. The result depicts a total of "52" keywords grouped in the green, blue and red clusters. The red cluster of the keywords is labelled "Role of financial literacy in financial management behavior", the green cluster is labelled "Participants of financial management behavior", as well as the blue cluster is entitled "Antecedents of financial management behavior".

In keyword analysis, the colour, text size, cluster size, and connecting line thickness denote the strength of relationships between the keywords.

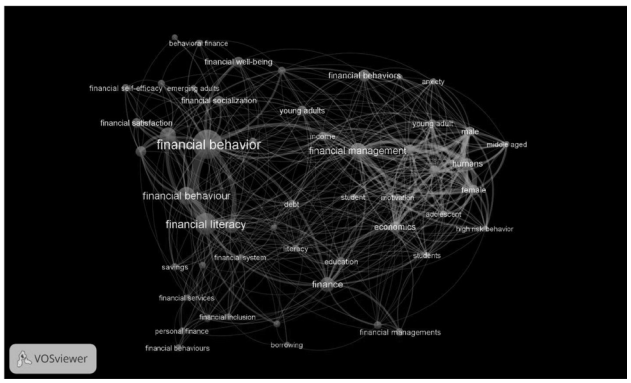
### Theoretical background of the labelled cluster

**Role of financial literacy in financial management behavior:** various researchers study the role of financial literacy in financial management behavior

**Table 8: Most Productive Authors**

| Author | TP | TC | Cites/ year | Cites/ paper | Authors/ paper | h Index | g Index | hI, norm | hI, annual | hA-index |
|---|---|---|---|---|---|---|---|---|---|---|
| Copur Z. | 5 | 209 | 17.42 | 41.80 | 1.00 | 4 | 5 | 4 | 0.33 | 2 |
| Kim J. | 11 | 257 | 13.53 | 23.36 | 1.00 | 6 | 11 | 6 | 0.32 | 3 |
| Sabri M.F. | 6 | 39 | 3.90 | 6.50 | 1.00 | 3 | 6 | 3 | 0.30 | 3 |
| Serido J. | 11 | 199 | 19.90 | 18.09 | 1.00 | 6 | 11 | 6 | 0.60 | 5 |
| Shim S. | 12 | 382 | 29.38 | 31.83 | 1.00 | 7 | 12 | 7 | 0.54 | 5 |
| Xiao J.J. | 9 | 603 | 37.69 | 67.00 | 1.00 | 8 | 9 | 8 | 0.50 | 5 |
| Rahim H.A. | 5 | 10 | 5.00 | 2.00 | 1.00 | 2 | 3 | 2 | 1.00 | 2 |

Notes: TP= Total publications; TC= Total citations




such as (Fernandes et al., 2014) study with the help of a meta-analysis of 168 papers. The researcher concluded that financial literacy was positively related to financial management behavior. However, (Mandell & Klein, 2009) analysed the impact of financial literacy on financial management behavior. As well as (Allgood & Walstad, 2016; Kaiser & Menkhoff, 2017; Servon & Kaestner, 2008; Xiao et al., 2014) study financial literacy in context of financial management behavior.

**Participants of financial management behavior:** with the help of keyword analysis, we identified that various researchers such as (Curran et al., 2018; Deenanath et al., 2019; Grohmann, 2018; Gutter et al., 2010; Jorgensen et al., 2017; Seuntjens et al., 2016; Spielberg et al., 2013; Tang et al., 2015; Worthy et al., 2010; Xiao et al., 2014) conducted a study on students, adults, female, male and middle age.

**Antecedents of financial management behavior:** Several types of research identified the antecedents of financial management behavior such as (Abdallah & Hilu, 2015; Arifin, 2018; Bapat, 2019, 2020; Carlson et al., 2015; Goyal, 2022; Goyal et al., 2021; Gunay et al., 2015) in the context of various population; adult, middle income, students.

### Citation analysis

Harzing's Publish or Perish software was used to determine the citation metrics of the retrieved data. The collected files were then imported into Harzing's Publish or Perish software for this purpose. Table 11 shows a summary of the citation metrics for the retrieved publications as of July 28, 2022. This table includes data on the publication years, citation years, articles, citations, number of citations per paper, number of authors per paper, Hirsch h-index, Egghe g-index, PoP hI, norm, PoP hI, yearly, and Pop hA-index of the documents that were retrieved.

**Table 11: Citation Metrics**

| Metrics | Data |
|---|---|
| Publication years | 1969-2022 |
| Citation years | 53 (1969-2022) |
| Papers | 389 |
| Citations | 6165 |
| Citations/year | 116.32 |
| Citations/paper | 15.85 |
| Authors/paper | 2.70 |
| Hirsch h-index | 37 |
| Egghe g-index | 70 |
| PoP hI, norm | 25 |
| PoP hI, annual | 0.47 |
| Pop hA- index | 13 |

Table 12 details the GS rank, cites, name of authors, year of publications, source of the publications and

**Table 10: Details of keyword Analysis**

| Label | Cluster | Total items | Keywords |
|---|---|---|---|
| Role of financial literacy in financial management behavior | Red | 19 | Borrowings, debt, education finance, financial behavior, financial capability, financial education, financial inclusion, financial literacy, financial management, financial services, financial system, household finance, literacy, personal finance, personal financial management, poverty, and savings. |
| Participants of financial management behavior | Green | 18 | Adolescent, adult, anxiety, economics, female, Male, humans, income, middle age, students, wellbeing, high-risk behavior, financial management, financial behaviors, motivation, psychology, young adult. |
| Antecedents of financial management behavior | Blue | 15 | Behavioural finance, covid-19, emerging adults, financial attitude, financial behavior, financial knowledge, financial satisfaction, financial self-efficacy, financial socialisation, financial well-being, locus of control, self-control, young adults, gender, financial behaviour. |

**Table 12: Top 10 Publications**

| GS Rank | Title | Authors | Cites | Year | Journal | Cite Score |
|---|---|---|---|---|---|---|
| 1 | Financial literacy, financial education, and downstream financial behaviors | D. Fernandes, J.G. Lynch Jr., R.G. Netemeyer | 673 | 2014 | Management Science | 7.7 |
| 2 | Institutional investment patterns and corporate financial behavior in the United States and Japan | S.D. Prowse | 272 | 1990 | Journal of Financial Economics | 9.7 |
| 3 | Who is in control? the role of self-perception, knowledge, and income in explaining consumer financial behavior | V.G. Perry, M.D. Morris | 255 | 2005 | Journal of Consumer Affairs | 3.0 |
| 4 | The impact of financial literacy education on subsequent financial behavior | L. Mandell, L.S. Klein | 221 | 2009 | Journal of Financial Counseling and Planning | 3.3 |
| 5 | Acting for happiness: Financial behavior and life satisfaction of college students | J.J. Xiao, C. Tang, S. Shim | 183 | 2009 | Social Indicators Research | 4.7 |
| 6 | The effects of perceived and actual financial literacy on financial behaviors | S. Allgood, W.B. Walstad | 177 | 2016 | Economic Inquiry | 2.8 |
| 7 | Financial Behaviors and Financial Well-Being of College Students: Evidence from a National Survey | M. Gutter, Z. Copur | 144 | 2011 | Journal of Family and Economic Issues | 3.1 |
| 8 | Consumer financial literacy and the impact of online banking on the financial behavior of lower-income bank customers | L.J. Servon, R. Kaestner | 133 | 2008 | Journal of Consumer Affairs | 3.0 |
| 9 | Financial literacy, financial advice, and financial behavior | O.A. Stolper, A. Walter | 130 | 2017 | Journal of Business Economics | 3.3 |
| 10 | The role of parents in college students' financial behaviors and attitudes | J.M. Norvilitis, M.G. MacLean | 119 | 2010 | Journal of Economic Psychology | 3.6 |

cite score of journals (2021) of the documents retrieved from the Scopus database. The GS ranks and citations of the top publications a re retrieved with the help of Harzing's Publish or Perish software. However, the cite score of the journals of ten top publications is manually found from the Scopus database. The most cited paper is "Financial literacy, financial education, and downstream financial behaviours", authored by "D. Fernandes, J.G. Lynch Jr., and R.G. Netemeyer" in the journal "Management Science". It refers that it has a specific role for the other publication. That is followed by the "Institutional investment patterns and corporate financial behavior in the United States and Japan" with 272 citations by "S.D. Prowse" in 1990 and "Who is in control? the role of self-perception, knowledge, and income in explaining consumer financial behavior" researched by "V.G. Perry, M.D. Morris".

## Conclusion

The bibliometric data from the previous studies on financial management behaviour, which included 389 publications indexed in Scopus database from 1969 to 2022, is assimilated into this study. This study, using co-occurrence analysis and citation analysis of financial management behaviour research, showed the publishing trend, descriptive analysis using the h-index, g-index, and hI- norm, hI annual, and hA- index, and keyword network analysis. These patterns show that since 2019, research on financial management behaviour has been growing and is still in its early stages. It was discovered that most of the nations cooperated to some extent. The United States and India are the two countries that contribute the most to the research of financial management behaviour. Indonesia, Malaysia, the Russian Federation, the United Kingdom, and other nations are noteworthy contributors as well. Additionally, three themes—Role of financial literacy in financial management behaviour, Participants in financial management behaviour, and Antecedents of financial management behavior—were discovered by co-occurrence analysis in the study's visualisation. These concepts are fundamental elements of effective financial management behavior. The FMB's top topic was also indicated by the most often occurring keywords, and the network demonstrates how these topics are connected to one another.

## Limitations

This study has some restrictions, same as any other studies. The journals that were scanned in the Scopus database were assessed to offer information for this study. The term "financial management behaviour" was used in the database search, and from the results, publications were chosen and their titles, abstracts, and keywords assessed for relevance to financial management behaviour.

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# Omni-channel Retail: The Nuances of Channel Choice and Switch Behaviour*

**Garima Gupta***
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***Abstract:*** *An omnichannel environment offers merchandise and services through a multitude of available channels and enable firms to interact with their customers at various touchpoints in a unique way. However, success of the omnichannel strategy largely requires a proper integration of channels from a retailer and a seamless inter-channel interaction for a customer, failure to execute which triggers channel switching. An effective omnichannel management thus requires a comprehensive understanding of the factors that govern consumers' channel choice. It is in this context that the present study provides an integrated perspective of the channel choice and switching behaviour to assist the firms in omnichannel retail to design better channel strategies to retain customers and maximize their shopping experience. Based on the extensive review, the paper provide practical suggestions and way forward for the firms operating in the omnichannel environment.*

***Key Words:*** *Omnichannel, Channel choice, Channel switching, Inter-channel integration, Seamless experience.*

## Introduction

Technological advancements, penetration of internet through smartphones, and growth in the online search of direct-to-consumer options has made it almost mandatory for businesses to have an online presence. In addition, significant changes brought by the COVID-19 pandemic have sharply increased the demand for online and mobile solutions and this boom in online interaction is unlikely to recede even after the pandemic (McKinsey Study, 2020).

The shift towards online platforms is clearly evident in the Indian retail system where e-commerce alone has been estimated to cross the $200 billion mark by 2026, with a CAGR of 30%, and a market penetration of 12% (Unicommerce, 2021). Further, 88% consumers would continue to buy online and nearly 38% of new online users have been added, majorly due to convenience (Hajro et al., 2021). The report by Accenture Global Consumer Pulse Research (2021) too reveal that 90% of the Asia-Pacific (APAC) customers expect retailers to sell products online. The fact that India is leading in the world in adoption of online buying, further exhibits this need for businesses to also operate through online channels.

In today's world, a single customer may not only interact with an organisation over more than 10 different channels and mediums, but can also behave in varied ways across different channels (Melero et al., 2016). The key implication of going omni-channel thus require that marketers deliver seamless brand interactions, regardless of whether their customers are in a store, online from a desktop or tablet, on a smartphone, or are availing some combination of these at the same time. Moreover, as omnichannel shoppers are likely to spend more than single-channel shoppers, the use of omnichannel strategies

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have a potential to yield higher revenue and better profitability.

However, an omni-channel approach has its own share of challenges related to data integration, privacy concerns, and channel switching. With a variety of channel choice available to consumers alongside the choice of product and retail, consumers can move easily across channels. The channel switching behaviour results in profit erosion as consumers obtain information or evaluate products on one retailer's channel while purchasing from another retailer's channel (Chiu et al., 2011). Proper omnichannel management, thus, require a complete understanding of the factors that influence channel choice of customers.

Though the application of omnichannel strategy has been adopted and examined in varied contexts such as retailing, logistics and supply chain, banking and insurance (Nguyen et al., 2022), the studies undertaken have mostly been qualitative and have focused more on examining consumer experience in an omnichannel environment. The existing studies do reveal some factors that influence customers´ channel choice directly as well as indirectly (e.g., Wolf & Steul-Fisher, 2022) but neither provide a comprehensive synthesis of factors nor unveil the manner in which customers react to cross-channel integration. The present study aims to bridge this gap by providing a synthesis of the factors that trigger channel choice, and channel switching behaviour in the context of omnichannel retail. The review will not only aid marketers and retail firms to comprehend and devise solutions to retain customers and optimize their channel experience; but will also yield important implications for omnichannel management.

## The Study

It is becoming evident that an omni-channel strategy plays an increasing important role in retail setting. Past studies have revealed that consumers' purchase intentions, channel choice, and channel switching behaviour is complex and depends on multitude of factors. It is therefore, essential that firms understand the determinants to respond and accomplish the desired outcomes. It is in this light that the present paper provides a detailed and integrated perspective on the nuances of consumers' channel choice and switching behaviour in the context of omni-channel retail.

Omnichannel Retail: Review and Synthesis of Literature

- **Concept and Emergence**

Omnichannel is a multi-channel approach that has been adopted across various industries over the last few years. Omni, a latin word which means 'all', induces businesses to use all channels as one rather than parallel or separate. As posited by Rigby (2011), it is "an integrated sales experience that melds the advantages of physical stores with the information-rich experience of online shopping."

Omnichannel operation entails the delivery of a "seamless shopping experience in which customers may shop across a variety of online and offline channels anywhere and at any time" (Bell et al., 2014). In other words, multiple available channels at different customer touchpoints are managed in a way that optimizes channel performance as well as customer experience (Verhoef et al., 2015). As suggested by Berg (2017), these channels include physical store, website, social media, mobile app, email, telephone, catalogue, chat, and in-store kiosks.

With the recent breakthroughs, omnichannel (OC) retailing has become the nuance platform where customers can seamlessly switch between different channels for purchase. Digital disruption has reshaped the retail sector which in turn has redefined consumer expectations (Riaz, 2021). With increasing digitalization, retailers have started exploring the use of technology (Brynjolfson et al., 2013) to integrate organizations' channels, practices, and tactics and provide a seamless experience to customers at their convenience and on any device. The effort to adopt OC marketing is a win-win strategy for both retailers and customers as while the former gets an opportunity to generate more significant volumes of in-depth data on customers' demand offer transparent and personalized services; the customers feel connected across all the channels and find it convenient and easy to engage with the retailer (Planet Retail, 2016).

- **Channel Integration in Omnichannel Environment**

The requirement for the business to diversify its portfolio and implement an omnichannel approach for customer grows as a result of the consumers' fragmented channel preferences and their use of many channels throughout their customer journey (Beck and Rygl, 2015; Kozlenkova et al., 2015). In such a situation, it becomes the need of the hour that a retailer takes a holistic view of the customer and keep up with the technology so as to create a smooth and integrated omnichannel experience for the customers engaged in the brand's ecosystem (Verhoef et.al, 2015).

Further, with the rise in empowerment of customers due to an increased digitalization and a shift to customer-centric approach over a product-centric approach, a customer always expects a seamless and personalized experience now, irrespective of the channel via which he/she communicates with a brand. Consumers also use alternate channels to be better informed about various product attributes

and service availability as well as for making price comparisons across channels. As observed by Juaneda-Ayensa et al. (2016), "customers are willing to move between channels depending on their preferences, current situation, time of the day or product category". This makes integrating various channels to perceive the customers' identity uniformly across all channels an essential task.

Channel integration involves synergizing different channels to form a 'brick-and-click' model which creates a multi-level and multi-dimensional connectivity of marketers with the customers. In today's scenario, integrating channels has become a necessity as it leads to sustained competitive advantage over other players in the industry (Frasquet & Romero, 2017) and aids in the creation of an enriching buying experience for customers (Melero et al., 2016, Saghiri et al., 2017). Moreover, it helps the marketers to get a clear idea of the customers' identity which can further enable them to provide an effective personalized customer service across all channels.

- **Channel Choice and Channel Switching Behaviour**

Customers' purchasing habits are radically shifting as a result of switching between channels based on personal preferences. Instead of purchases driven by 'brand loyalty', consumers prefer to browse, buy and pick up things whenever they want from the channel of their choice in their chosen manner (Piotrowicz & Cuthbertson, 2018). Having become more empowered to control their purchase journey (Stein & Ramaseshan, 2016), shoppers personalize their journey by moving across channels and connecting with companies through myriad touchpoints (Farah & Ramadan, 2017).

The practice of channel migration has become an area of great concern for retailers (Thomas & Sullivan, 2004) due to multiple reasons. First, channel switching makes it difficult for retailers to hold on to customers for a long time. Second, retailers feel concerned about channel cannibalization since it allows one channel to absorb market share from another that hurt sales along with modification of buying habits (Deleersnyder et.al, 2002). Third, online channels enable quick price comparisons, thus putting more emphasis on prices and sparking price wars. Fourth, not only consumers make fewer purchases through the online channel (Machlis, 1998), there is even lesser chance of their buying on impulse.

Another important challenge that retailers are facing these days is fulfilling consumers' expectations in terms of buying experience which is not exclusive to online platforms rather complementary to the offline one. The inconsistencies between two channels in terms of price variation, assortment, or product information, may lead to channel conflicts and damage customers' purchase experiences. It is in this regard that researchers have explored the factors that affect consumers' channel choice and switching behaviour. The factors so identified range from four to and cover different channel aspects in online as well as offline retail. For instance, while the study by Agarwal and Dixit (2019) identified six factors (namely, shopping convenience, shopping ambience, shopping risk, pricing, value perception, and tangibility) which consumers use to select the purchase channel for apparels; Bauerova and Bracinikova (2021) list facets related to channel benefits, the product, brand perception, loyalty, and customer characteristics that influence choice of channel. Their study also revealed offline channel to be most preferred channel amongst the hybrid retailers. In another study by Helke (2018), the findings revealed that favourable attitude towards offline channels, lack of competence of customers to use online channels, favourable perception about services received in offline channels, choice confirmation and situational factors such as waiting for delivery from online purchase prompt customers to buy from offline channels. A recent study by Nguyen et al.'s (2022) extends the existing line of research by suggesting six main reasons- low channel lock-in, cross-channel synergy, attribute-based decision-making, augmentation, social normative pressures, and perceived self-efficacy, that contribute to channel switching in the context of electronic goods retail.

The challenge in terms of varying channel preferences and choice across consumers' decision-making stages has led researchers to explore and examine the antecedents of channel choice and their impact in different stages of consumer buying behaviour. For instance, Heitz- Spahn et al. (2018) provided consumers' typology based on channel choice and retailer visited during the information search and purchase stage and established that product category significantly impacts consumers' channel decision in the two phases of the decision-making process. With a similar aim to understand purchase decision behavior in omnichannel e-tailing, Jain and Gupta (2019) provided empirical evidence to support the significant effect of offers and operation quality, convenience, product quality and service quality on consumers' purchase intention. In a recent study, Chen et al. (2022) explored the influence of consumers' tolerance of product quality and brand on their purchase channel choice.

In addition, studies have also taken technology paradigms into consideration to identify consumers' acceptance and preference of new technology-based channels. While Berg (2017) based his work on the TAM framework to examine the influence of 'perceived ease of use', 'perceived usefulness',

'perceived security', and 'perceived personalization' in affecting the purchase intention of Swedish consumers in omnichannel context; Juaneda-Ayensa et al. (2016) revealed the 'personal innovativeness', 'effort expectancy', and 'performance expectancy' as the key determinants of purchase intention in an omnichannel context.

Recent studies (e.g., Kazancoglu and Aydin, 2018; Chao, 2019; Doan, 2020; Ryu and Fortenberry, 2021; Jayasingh et al., 2022; Nguyen and Borusiak, 2021) have adopted modern technology paradigm focused on UTAUT2 proposed by Venkatesh et al. (2012). More specifically, Ongko & Hati (2021) added new dimensions (namely, personal innovativeness, perceived security danger, and perceived compatibility) to tailor the model to an omnichannel background. Singla et al. (2022) too recognized the use of technological advancements within the purchasing cycle and conceptualized the new framework to include factors such as 'social influence', 'habit', 'hedonic motivation', 'personal innovativeness', and 'perceived security'.

## Key Learnings and Way Forward

Despite its application in various settings, the nuances of consumer behaviour in an omnichannel environment have not yet been fully understood. The present paper is important to the field as it provides a detailed review of channel choice and channel switching behaviour and provides useful observations for omnichannel retailers.

First, the review establishes the dependence of channel choice on multitude of factors (such as ease of use, quality, situation, customer needs). A better and in-depth understanding of all constituent factors or dimensions is required as an improvement in any one aspect of a channel may not provide the desired result. Second, while some factors directly affect channel choice and switching (e.g., customer needs); others may affect this indirectly (like product or service). A comprehensive understanding of the differences in the nature of impact of these factors would be useful in tailoring an appropriate channel approach.

Third, while some of the antecedents of channel choice and switching behaviour are controllable (e.g., convenience, or value perception); others may be uncontrollable (e.g., legal aspects). Hence, managers in omnichannel firms should be able to clearly identify both types of factors and formulate ways to manage these factors, where possible.

Fourth, the possibility that differences in products, situation, or stage of consumer buying decision may cause consumers to look for specific channel characteristics, makes the formulation of a uniform channel strategy quite complex and almost non-feasible. By understanding and assessing the differences in suitability of various channels as well as channel capability across various parameters, retailers can have a better connect with their target consumers.

Lastly, as different consumers segments may look for specific channel characteristics, it would be interesting for the retailers to explore channel preferences across different segment of consumers. From a practical viewpoint, creation of different shopper profiles will help firms in omnichannel retail in providing a personalized shopping experience to their customers in accordance with their socio-demographic attributes and determinants of channel choice.

In all, this work will make it possible for firms to better comprehend omni-shoppers and devise focused strategies to retain customers and optimize their channel experience. The insights generated from the work will further aid firms to address the factors that impact channel switching and eventually reduce the same. The efforts taken in this regard would, in consequence, improve consumers' behavioural responses such as satisfaction and engagement with the firm following an omnichannel model.

No study is perfect in all respects and the same is true for the current work too. The limitations of this paper open up opportunities to undertake research in this evolving domain. To begin with, an empirical assessment of the antecedents synthesized in this paper can be conducted to know their influence on key aspects (such as purchase intentions) across consumers' shopping journey. It would also be worthwhile to perform a comparative evaluation of various touchpoints in terms of their ability to deliver a fulfilling customer experience. At the same time, an assessment of the interactive effect of moderator variables (such as consumer characteristics, product category, and shopping motivation) would complement the work and may yield further interesting insights.

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# An Analysis of Impact and Scope of Moonlighting policy

**Mamta Shah***

***Abstract:*** *Moonlighting- this aspect of working is becoming more and more popular after recent pandemic. Actually the Phenomenon of Moonlighting is not a new one. When workforce or any employees does not want to continue or focus on a single job and continue to work on multiple jobs for the purpose of earning additional income or to utilise their additional skills, then this aspect is called Moonlighting. Present paper is going to focus on moonlighting in different organisations and its human value consideration.*

## Introduction

Moonlighting in terms of industrial relation means secondary job taken by employees in addition to his main job. If an employee is taking extra project apart from his main employment or having some secondary source of income after his working hours then it is considered as moonlighting. Recently this topic is came into limelight when one of the organisation allows its employees moonlighting projects and in another case one of the company sacked its employees due to their moonlighting policy.

A few months ago, Swiggy launched a policy for its employees, which allows them to take extra projects outside of their work place, whereas in Wipro many employees were fired as were doing extra projects apart of their main employment. Chairman of Wipro Rishad Prem ji consider this aspect as cheating with your main job. There are different aspects to this policy.

## Objectives of the study

1. To understand whether moonlighting should be allowed in a particular industry.
2. To know the reasons why employees prefer moonlighting.
3. To analyse pros and cons of this policy.

## Should Moonlighting be allowed?

There are many people who are in favour of this policy and their are many who consider this policy as a unethical practice.

There are many who arguments in favour of this policy are in favour of this policy is that if an employee finishes its work without any interruption in his primary duties and gaining extra profits by doing outside project which will provide him extra support. There are many situations that an employee having extra skills which in wants to utilise for doing outside projects in that case also moonlighting is ok as employee is using his own extra skills and extra time for earning extra income. Generally it is argued that extra skills or any passion or hobby is always a personal choice. Any one can utilise his extra time to do extra hobbies and also has a right to earn income or profit from that. Even sometimes these extra projects are useful for anyone's professional development and to doing extra courses.

Despite favourable points there are many factors which are against moonlighting. Generally is expected from the employee that he has to put his entire time and efforts on his main job and always work for his employee interest. If a person is doing extra job apart from his main employment in that case it is expected that he or she needs to keep all data confidential in his job. But moonlighting expect

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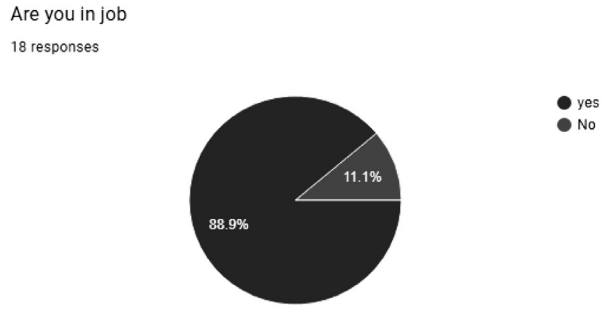
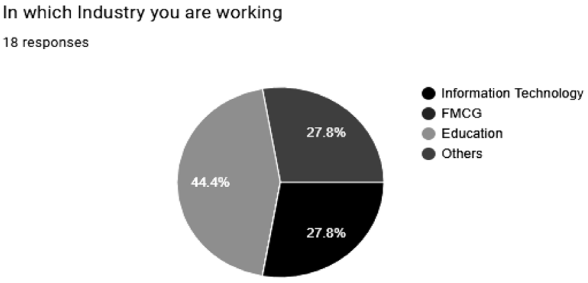
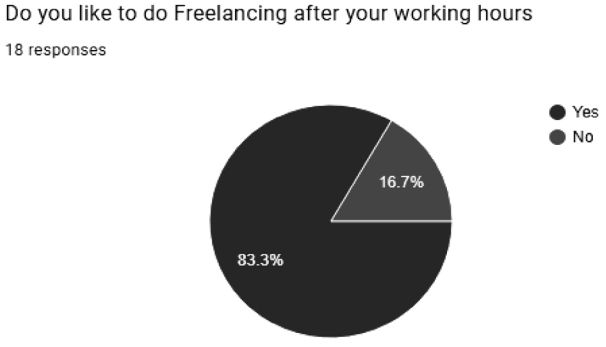
sometimes give a chance to employee to breach this law. If a person is doing similar nature of job in that case there is a chance that may be data of his main employer will be shared with others. Even though employee is using extra time from his main job. But if he or she is tired, in that case it will impact his or her efficiency and ultimately impact the productivity of the organisations. The main problem is the fear of leakage of data is a cause of concern for not allowing moonlighting.

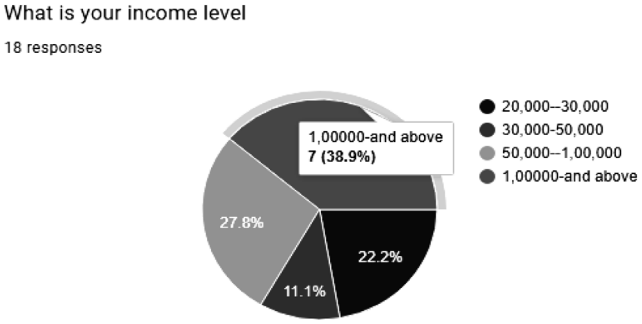
## Data Analysis

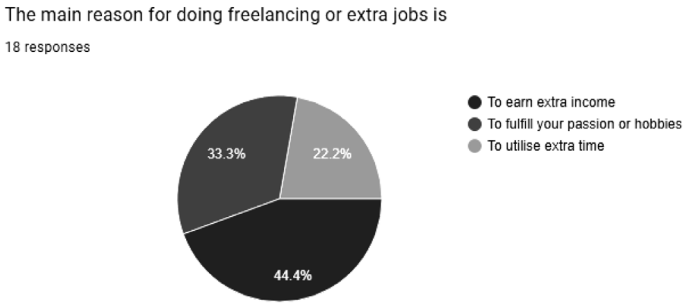
So after analysing above pros and cons of the moonlighting, I think no one will say that it is fully allowed or not allowed. The aspect of Moonlighting should be a choice unless it impacts the efficiency and integrity of employees' main job. For the purpose of the study some primary data is also collected. Result of which are given below.




## Findings

From above primary data results shown that most of the people interested to do extra work beyond their working hours. Data is collected from different industries, Education, FMCG and Information technology etc. Most of the respondents wants moonlighting to earn extra income and to fulfil their passion, whereas some of them are interested to utilise their extra time after their jobs.

## Interpretation on the basis of Present Scenario

In today's time when there are lot of uncertainties, an organisation needs to analyse and rework on employment contracts and to take decision on the basis of current scenario. As we have seen in above two cases of Wipro and Swiggy the perspective of different employees on moonlighting are different. Many of them consider it a unethical. They say that it is deceitful and cheating and rather are chances of loss of confidential data are lost by this practice.

Present scenario when its time of mostly software base industries where mostly Work from home option is allowed moonlighting can be considered as a sustainable option. There are many industries where specialised skill set is required, and if there work is possible on hybrid mode then it can be a option. On the other hand blue collar jobs or informal sector there trend is totally different, that cases moonlighting could be accepted. Critically

moonlighting aspects valid on the basis of industry to industry and as per nature of jobs. There is a strong need for mindset change and company's needs to have flexible policies in order to hire and attract best talent as per their requirements.

Some times in order to motivate employees organisations should allowed employees for moonlighting so that employees can also pursue passion apart from their job. It is obviously reducing their stress. Motivation and sustainability of talent is the need of the hours in today's scenario.

## Behind the scene

Organisation should allow moonlighting considering above their pros and cons. The moonlighting can be used by employees just to fulfil their passion or their dreams. In India many of the students adopt a career due to social or parental pressure. And not able to fulfil their dreams, so instead moonlighting is used as a medium to earn extra money rather it should be used as a medium to pursue of their passion or hobby. There is also a need on clarity of two aspects on which is saying full time. Does full time means 24X7 or only working hours. And other aspect is privacy; everyone has its own privacy beyond their working hours. So every aspect should be considered before making a policy on this particular aspect.

## Conclusion

At the end we can conclude that every industry has to analyse moonlighting aspect as per their work culture, there should not be any generalisation of this aspect. In today's scenario specially post covid world, Gig workers, online e lancing or virtual work arrangements are growing. Considering this scenario any of the organisations should not simply ban or allow moonlighting. Cost of training to workers, quality standards and uniqueness of the product they are offering and very important reputation of the organisation are the aspects that must be taken care of while making policy on moonlighting. Loss of revenue to the organisation by forbidding the employees to do gigs thereby triggering their turnover intentions and ultimately facing their attrition. So, Human resource department and top management need to re-engineer their work practices accordingly so that a beneficial state of affairs can be created for both the management and workforce. The situations like this are paving the path towards new occupations in the HR functions, which never existed in the in the previous decades like Gig work Strategist, and future of work manager etc., as mentioned earlier. This is how the future of work can be facilitated for enabling successful businesses in the upcoming virtual industries.

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# Social Media use by Indian Public Sector Bank: A study on State Bank of India

**Ngaimuankim Tonsing***

***Abstract:*** *With 467 million Social Media users in India (Kemp, 2022), as on January 2022, 33.4% of the total population, and this number keeps on rising, the scope for Social Media banking is huge. Social media is infact, redefining the way we do banking; it has made it more convenient, accessible and almost an omnipresent body. Social Media has made conversation between Banks and customers more transparent, banks can now understand the needs and expectations of the customers, creating a shared social value. This paper will analyze State Bank of India (SBI), Indian largest public sector bank, use of Social Media using the instrument Social Media Assessment Index (SMAI), adapted from the Facebook Assessment Index (FAI) by Miranda et al. (2013) using the same three categories - popularity, interactivity, and content for evaluation. It further discusses the wall posts and the number of likes and the strength and weaknesses of each platform – Facebook, Twitter, LinkedIn, and Instagram. SBI on Instagram is gaining huge followers and likes due to the digital native Gen Y and the tech-savvy generation Gen Z. They are the ones who are incorporating the use of Social media into our everyday life.*

***Key Words:*** *Social Media, Internet, Banking, State Bank of India, Followers*

## Introduction

More than 30 years ago, the internet was a huge technological advancement the world witnessed, changing the way we communicate. According to a report by Com.Score, India is currently the third largest Internet user in the world, right after China and the United States (Wani et al, 2014). In January 2022, there were 658 million internet users in India, 47% of the Indian population (Kemp, S., 2022). Social Media has revolutionized the internet by bringing about an evolution in human social interaction in the way we communicate, share information, collaborate, socialize, and entertain ourselves (Aral et al., 2013). Social Media is a remarkable asset to the business world; it is a lens into the future of Business (Brito & Solis, 2011). With its low entry barrier, universally accessible, interactive, transparent, and real-time (Dutta, 2010), Social Media has permanently changed the business world and the relationship between organizations and customers (Aral et al., 2013). Every organization now has a Social media presence and in order not to get left behind, public sector bank in India are now making their Social Media presence known to the customers and using it to interact with the customers and share information about their products and services. They are also using Social Media for engaging in two-way communication with the customers. The objective of this research is to study India's largest public sector bank, State Bank of India, and its Social Media use. An instrument known as Facebook Assessment Index (FAI) has been adapted from Miranda et al. (2013); however, since we want to do a comparison with the most popular Social Media platforms used by SBI – Facebook, Twitter, LinkedIn, and Instagram,

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we have renamed it as Social Media Assessment Index (SMAI), using the same three categories - popularity, interactivity, and content to evaluate the essential information. It further discusses the wall posts and the number of likes and the strength and weaknesses of each platform – Facebook, Twitter, LinkedIn, and Instagram.

## Literature Review

Kaplan and Haenlein (2010) defined Social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" (p.61). The advancement in technology has brought about a major upgrade in the way we work, connect and communicate, and Social Media has given us control over how we wish to do it (Turkle, 2012). Social Media has made communication more transparent, easily accessible, and visible. The introduction of smartphones and computers is a huge triumph for Social Media (Diercksen et al., 2013). Organizations are actively harnessing the power of Social Media for a wider reach of their customers and more effective interaction with them, and also as a promotional tool for their news and activities for a much swifter and wider reach (Diercksen et al., 2013). Social Media is also used to find new business opportunities, new sources of industry knowledge, wisdom, expertise, and advice, and new groups of similar-minded individuals and companies (Aguenza and Som, 2012). Organizations plan to accomplish their business objectives through Social Media in a more effective and efficient manner (Kane, 2015).

## Research Methodology

We have adapted the instrument Facebook Assessment Index (FAI) developed by Miranda et al. (2013), to create Social Media Assessment Index (SMAI) which uses the same three categories - popularity, interactivity, and content to evaluate the essential information of State Bank of India, to do a comparative analysis on the top Social Media platforms – Facebook, Twitter, LinkedIn, and Instagram.

## Data Analysis

### Categories for the formation of the Social Media Assessment Index

#### Popularity

The number of followers on their pages is the measure used to evaluate the popularity of an organization's use of Social Media

#### Interactivity

Interactivity is measured by the degree of user engagement with an organization or brand on Social Media and is also measured by the frequency of users' comments, shares, or "like" on the information shared by an organization or brand. The following five indicators (Miranda et al., 2013) have been adopted to analyze the degree of interactivity of pages.

1. Number of wall posts made by the bank in the last 5 days.
2. The average number of "likes" per post, calculated from the posts in the last 5 days.
3. The average number of comments per post, calculated from the posts in the last 5 days.
4. The average number of shared posts, calculated from the posts in the last 5 days.
5. The average number of user posts answered by the company, calculated from the posts in the last 5 days.

#### Content

The quality of page contents is measured by evaluating the presence of relevant information. Miranda et al. (2013) have proposed 22 items, out of which we have taken 20 items for evaluating the content of the pages.

**Table 1. Content Items (adapted from Miranda et al. (2013))**

| | |
|---|---|
| Bank information | Videos |
| Product information | Photos |
| Corporate identity | Other Social Media pages |
| Marketing messages | Claims and suggestions |
| Events | Charity events |
| Quick service contact details | Web site |
| External links | Cross-selling links |
| ATM and Branch Locator | Coupons or specific offers |
| Phone | Online application form |
| E-mail | Careers |

#### Weights and Index

The data is displayed on a scale of 0 to 100 for the three categories. For Popularity, each value is divided by the highest value and then multiplied by 100. For Interactivity, the score for each category is obtained as the arithmetic mean of the scores of each of the items within it. The content score is measured by assigning one point per content item in Table 1 to the bank if it is provided by the bank. The total score is calculated by adding the total number of content items provided by each bank, after which,

the content value of each bank is calculated as

Content value of a particular bank = {Total score of the bank/Total no. of content items considered (i.e. 20 items)} * 100

The final index value is a weighted sum of the scores obtained in each of these categories (Miranda et al., 2013).

SMAI = w1 * Popularity Value + w2 * Interactivity Value + w3 * Content Value

The weights (wi) for each category are assigned on the basis of Miranda et al. (2013). The

assigned weights were: popularity 25%, interactivity 40%, and page content 35%.

**Data Collection**

For the study, Social Media pages of Facebook, Twitter, LinkedIn, and Instagram has been analyzed between 25th-30th August 2022.

## Findings of the study

State Bank of India, the largest public sector bank in India has 7 Social Media presence

1. Facebook - @StateBankOfIndia
2. Twitter - @TheOfficialSBI
3. LinkedIn – State Bank of India
4. Instagram - @theofficialsbi
5. YouTube - @TheOfficialSBI
6. Pinterest - @TheOfficialSBI
7 Whatsapp

Since YouTube, Pinterest and Whatsapp cannot directly be measured, we will be using only Facebook, Twitter, LinkedIn, and Instagram for our comparative analysis.

**Table 2. No. of followers as on 25th Aug 2022**

| Name | Facebook | Twitter | LinkedIn | Instagram |
|---|---|---|---|---|
| State Bank of India | 17.7 Million | 4.4 Million | 2.4 Million | 2.2 Million |

As seen in table 2, Facebook has the highest number of followers at 17.7 million, with Instagram being the least number, with 2.2 million.

**Table 3. Social Media Assessment Index (SMAI)**

| Social Media | Popularity | Interactivity | Content | SMAI (%) |
|---|---|---|---|---|
| Facebook | 100 | 80 | 90 | 88.5 |
| Twitter | 24.86 | 40 | 70 | 46.71 |
| LinkedIn | 13.56 | 18 | 75 | 36.84 |
| Instagram | 12.43 | 100 | 65 | 65.86 |

SMAI of Facebook is also the highest with 88.5%, this is mainly due to Facebook being the most popular Social Media (Boyd & Ellison, 2008), with the highest popularity of 100%. The no. of wall posts/ tweets is pretty much the same for all the platforms. Only Facebook and Instagram have an SMAI value of above 50%. The comments on Facebook were mostly complaints and criticism, and the reply rate of Facebook is not satisfactory.

Instagram has the second highest SMAI with 65.86%, this is mainly due to Gen Y or Millenials, the first digital natives (Wehner et al., 2017), and Gen Z, the tech-savvy generation, and their love for Instagram. It also has an interactivity of 100%. The highest number of like of a single post on the entire Social Media platform was from Instagram with 2573 likes on a single post. However, the reply rate on Instagram is very low. The comments on Instagram are mostly queries and concerns. Since the number of re-shared cannot be viewed on Instagram, this further reduces its SMAI value.

Next, we have Twitter with an SMAI of 46.71%. Re-tweets are not counted under a post. One reply which was divided into 2/3 replies (due to the word count of 140 characters) is being counted as one reply. Twitter has the second-highest number of followers with 4.4 million (Table 1). Twitter has a very prompt response rate, as quick as within 6 minutes.

Lastly, we have LinkedIn with an SMAI of 36.84%. This is mainly due to the low score in interactivity, with only18%. Unlike the other Social Media platforms, the number of likes per post is relatively lesser with as low as 14 like on a post. However, the comments on LinkedIn are mostly about appreciation for the bank or inquiry. There are inquiries about job openings as well. LinkedIn is the only Social Media platform with a 'Jobs' page.

The posts consist of the promotion of YONO, an integrated digital banking platform of SBI wherein users can access a variety of banking and financial services and other services such as bill payments, ticket bookings, online shopping, etc. YONO app is available on both android and ios smartphones. The wall post also provides safety tips for the customers, promotion of their banking products, and their availability on other Social media platforms eg. Account balance and mini statement on Whatsapp, benefits of investments and its various types, the festival offers, SBI participation in events and discussions, festival wishes and tribute to icons.

## Implications

Social Media has transformed the organization, marketplace, and the way business is done. Social Media is making organizations publicly visible, like never before. In order to survive, every business needs to have a Social Media presence and a Social

Media strategy. Banks are no exception and State Bank of India, being the largest public sector bank, can harness its huge followers to gain customer insight. SBI is using its Social Media platforms to acquire, engage, cross-sell and retain customers. From the Social Media Assessment Index (SMAI) in Table3, it can be seen that SBI rates very high in terms of popularity and content, it has the highest number of followers among all the public sector banks. Facebook itself has followers of 17.7 million; this can be leveraged by providing more interactivity. The replies to comments were very low, through these comments; SBI can gain insights into a customer's needs. Share of posts was also low, employees and top management can be asked to share SBI posts on the Facebook page, this can reach more customers, gain more followers and make more customers. Also, instead of posting the same content on all the Social media platforms, it can be more personalized. Twitter can be used for tweets by top management. LinkedIn being a professional networking site is the only platform with Job content, Job openings can be updated regularly on it. Instagram can be majorly harnessed by SBI to appeal to the younger generation. More interactivity in the form of fun posts and pop culture can be made to gain Gen Y and Z's attention, along with prompt replies, which were not present on Instagram. Gen Y and Z are the tech-savvy generations, who work and play on Social Media and look for information and social contact on Social Media. They are a huge potential market for SBI and since they are constantly texting generation as well, SBI can have a separate Social Media team for these customers, cater to their queries and needs, and do cross-selling. SBI already has a huge customer base but banking is slowly shifting online and Social Media is the future of business. SBI is already doing a good job with its Social Media presence on all the platforms; it can however do much better by assigning a Social Media team for better and more effective interaction with its customers.

## Limitations and Scope for Future Research

Since Social Media works in real-time, there can be an update, a post, shares, or like any minute or even second, the numbers might differ slightly, we are taking the numbers as per 5 days of activity from 25-30th August 2022. Also, YouTube post videos on how to use internet banking and other related banking videos, and WhatsApp is greatly used by the employees for internal and external communications and have provided service such as account balance, a short statement, etc. They cannot be measured nor compared with the other Social Media platforms; WhatsApp and YouTube usage by SBI can be a topic for future research taken separately.

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# SWOC Analysis- A Case Study of O.P. Jindal Global Institute of Eminence Deemed to be University (JGU) Sonipat, Haryana

**Rajeev kaur***

***Abstract:*** *OP Jindal global university is granted the status of an Institution of Eminence (IoE) by the Ministry of education, Government of India. This is a non-profit and first private university established under the Haryana Private Universities (Second Amendment) Act, 2009 by sh. Naveen Jindal, the Founding Chancellor and a philanthropist. Mission of this university is to provide learning which is not simply delivering lectures but engaging them intellectually in research- based understanding of subject with the help of internships in India and in foreign universities, system of full semester abroad, In a public document (strategic vision 2029) issued in2018, it is mentioned that guiding principles will remain the foundation for the development of the institution considering all the stakeholders including learners, parents, faculty, national and international partners. These principles are making this university top class multidisciplinary university,having strong impact globally, It has been observed that Jindal global Institute of eminence, deemed to be university is committed to make this University as number one university world over. Present study is conducted to understand the strengths, weaknesses, opportunities and the challenges that Jindal university is facing. Secondary data is used due to paucity of time.*

***Keywords:*** *Vision, Mission, Curriculum Development, Student Centric, Innovation, Quality assurance*

## Introduction

OP Jindal global university is granted the status of an Institution of Eminence (IoE) by the Ministry of education, Government of India. This is a non-profit and first private university established under the Haryana Private Universities (Second Amendment) Act, 2009 by sh. Naveen Jindal, the Founding Chancellor and a philanthropist. His dream university "A Private University with Public Service" speaks volumes about his determination to excel in education sector. This university is recognised by UGC under section 2f of UGC Act 1956. It is constructed at 80 acre land in Sonipat Haryana, India. Professor (Dr) C. Raj kumar is the vice chancellor of this prestigious global university.

## Vision

"O.P. Jindal Global (Institution of Eminence Deemed to be University) aspires to be a role model for institutional excellence in higher education among leading institutions in the world as a multidisciplinary, research driven university fostering excellence in teaching, research, community service, and capacity building and nurturing socially responsible leaders through an eclectic and sustainable approach serving the local and regional communities. Through its work, the University seeks to build bridges across nations, working with national, international, and governmental organisations, and NGOs, and business organisations". (https://jgu.edu.in/vision-mission/)

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## Mission

Mission of this university is to provide learning which is not simply delivering lectures but engaging them intellectually in research- based understanding of subject with the help of internships in India and in foreign universities, system of full semester abroad, to make them understand the culture of that country and global curriculum which enhance their horizon and promotes multidisciplinary approach to learning. Creating and maintaining such an environment for research that promotes cutting-edge, interdisciplinary research and collaborative work with local, regional, and international communities. University also organizes capacity development programmes for governments practitioners, participating in community service projects and in national and international academic, cultural, sports and other event.

## Curriculum development

Curriculum is designed with a global perspective in consultation with the international faculty and experts from the industry. Collaborations with foreign universities to give exposure to the students with research-based learning environment with opportunities for summer/winter internships with international perspective was also created.

Partnering with industry, case- study -based learning, role play, internships, special lectures, seminars and conferences was given the top most priority. University observed social ethics related to creation of knowledge for personal and social transformation. Focus is on the Experiential learning.

## Innovation and research

As per SSR 2015 there were 43 research centres. Now there are more than 60 research centres which shows how important is the research - based learning at Jindal's. The University encourages faculty members to work harder in the area of research.

## Quality assurance

The University has been instrumental in improving the quality of its curricula. Academic Council of university is responsible for maintaining and upgrading the quality of its courses. Internships with universities and institutes of international repute are increasing day by day to promote experiential learning. Course content is revised keeping in mind its global perspective, input from industry expert, its global partners and skill development in that particular field to ensure the employability of students.

## Reservation policy

Ten percent of the seats are reserved for persons belonging to SC category under the Haryana domicile category. The University provides facilities to support students with varied disabilitie (Source :SSR 2015 O P Jindal)

## Student centric approach

University has learner- centric approach. Various methods are practised to support learning like through video- conferencing- classes and experiential methodologies. Using case study method, group discussion, organising seminars and promoting a participative environment where students can have their own intellectual growth during their studies is the need of the hour. Providing opportunities for student exchange and study abroad options. Internships at the end of every semester during break helps them to gain industry insight. They also got an opportunity to assist their faculty members in research projects.

## Library

Library is constructed on 10,000 square feet area. This is the best place where one can enjoy the company of books, update their knowledge and improve their understanding of subject of their interest. It is full of book, research reports, e-resources, legislation, treaties, encyclopaedias and collection of media resources like training films, documentaries. All major online research databases are given access to the faculty and the students.

## Sports

University has gymnasium which maintains international standards with professional trainers. Students have facilities to play cricket, football, badminton and volleyball. To reduce stress Yoga, aerobics and dance are also practised by the students.

## Funding of research projects

**University is conducting so many projects funded by :** American jewish committee; Punjab government; UNDP Bangladesh; Government of Haryana; Bureau of police research& development, Ministry of home affairs, India; University of Amsterdam, Netherlands; Ministry of education, Japan ;ITAD Ltd, UK; Ministry of education, Government of Taiwan; ICSSR; IIFT; French research institute, Rabat, Morocco; Ministry of commerce and Industry, India; British Academy; CNRS-Paris and IFP-India; UNDP, Afghanistan; Ministry of External affairs, India; Centre for WTO studies, IIFT

The data related to funding agencies shows that collaborative research is conducted in diverse areas.

### Research Grants Policy

Grants are provided for the short and long term projects. Short term research grant is provided for a period of up to 6 months and maximum amount that can be granted is Rs. 5,00,000. Medium term research grant is provided up to the Rs. 10,00,000 and duration of the project is up to 18 months. Maximum of Rs.20,00,000 can be granted for a project with the duration of 24 months. ( Source: SSR 2015, O P Jindal )

The Vice Chancellor, Registrar and the Dean of the respective schools review these projects. University releases its own research journals which are published under sage publication.

### Facts and figures

More than 8700 students are enrolled out of which 49% are females.81% are enrolled in undergraduate programmes and 19% are doing masters and doctoral research. University started with 100 students and 10 faculty members in 2009. There were around 4300 students and 400 faculty members in 2019. (data source: https://jgu.edu.in/) Today more than 900 full time faculty is employed and out of this 45% is an alumni from the top 200 global universities. Teacher-taught ratio is 1:9 now University has engaged around 100faculty from various international universities.

There are more than 35 undergraduate programmes and 15 plus post graduate and doctoral programmes run by the university. There are more than 2000 publications and 50% of them are published in international journals.

### Institutes

There are 12 schools with different streams. They are:

Jindal

- global business school
- global school of International affaires
- global law school
- school of banking & finance
- school of liberal arts & humanities
- school of government and public policy
- school of Journalism& communication
- school of Arts & artchitecture
- school of psychology and counselling
- school of environment & sustainability
- school of language and literature
- school of public health and human development

Three research and capacity building institutes are also operating. (source: university website)

## SWOC ANALYSIS

❖ **Strength:**

Ranking and accreditation : Following rankings and accreditation are provided by various agencies.

- Granted autonomy to the university by UGC
- Recognised as Institution of eminence by MHRD, Government of India.
- Second rank in Swachh campus in 2019.
- Accredited grade A by NAAC.
- University has secured its place in top 700 universities in QS world university ranking 2023.(two more private universities from India which could made up their place in QS ranking are Amrita Vishwa Vidyapeetham and Manipal academy of higher education)
- Jindal university is still ranked number one Indian private university in world QS ranking.
- It is placed at 450th world QS ranking in employer reputation.
- It is amongst the top 150 universities in QS ranking of young university in 2020.
- Holding Number one position in private universities in India as per QS world university ranking
- Jindal Law school is number one law school in India by subject for the last three years
- Ranked at 70th position globally as per QS world ranking in 2022.
- Ranked76th in 2021
- Ranked in the range of 101-150 in 2020. Started with 100 students in 2009 and now it has 5000 students and 500 learned faculty. It has 77.9 scores in academic repute, 79.3 in employer reputation,60.3 in citations and 45.4 in h-index. In 2020-21around 300 research papers were published and 280 papers out of these are published in scopus. It has 250 international collaborations. It shows how Jindal law school has achieved heights world- wide. Academic score in 2021 was73.5, citation score was 57.6. Presently the academic reputation of law school is 49 which is ahead of many universities like university of Hong Kong, Duke university, Cornell university, university of California, Los Angeles. It holds 35th position as per the employer reputation.
- Highest ranked Indian university in QS world university ranking 2023 focussing on social science, arts & humanities.
- Second highest ranked university in India in faculty- student ratio.
- Ranked among top 250 universities in the world

in faculty-student ratio (1:9)

- It is ranked amongst top 550 universities in world in international faculty ratio.
- Ranked among top 450 universities in world in employer reputation (2023 QS ranking)
- Best University Serving Social Cause (2014) – ASSOCHAM India
- Best Innovation Award – World Education Summit 2012
- Best private University for Global Orientation (2014) – ASSOCHAM India
- Ranked first among All Private Law Schools (2014) – Careers 360
- Ranked fifth among all law schools Graduate Recruitment Rankings (2014) – Legally India
- Faculty has completed many projects sponsored by international and national organisations.

### Recognitions

- Membership of association of advance collegiate schools of business.
- Member of international association of law schools.
- Member of association of Indian universities.
- Recognised by Bar council of India.
- MBA in Digital finance in association with UPGRAD in online and blended mode is also offered.
- First university to partner with Coursera to launch 3 master's degree programmes.

### Placements and Internships

Students are getting internships in Australia. Law school has also placed 176 students of 2020 batch and 36 zero day placements. Among recruiters are S.R associates, J sagar associates, Tech Mahindra, Bajaj Allianz.

Highest salary package in 2020 was Rs. 15Lp.a. and average package was Rs. 8.9 L p.a. In 2020-21, 36 job offers were accepted and had 11 preplacement offers. Highest CTC for integrated BBA(h) was Rs.10Lp.a.and for MBA (international) it was Rs.30.9L p.a. and top recruiters were HT media. BSES, KFC, Maruti Suzuki. Jindal global business school provided internships to 589 students out of 615 in2021.

### Alumni

Alumni of Global institute of eminence deemed to be university are working in many sectors. There are 4000 plus alumni network all over the world.

## WEAKNESSES

University is comparatively new as compared to the other well -established universities. Therefore it could not create goodwill among the students. Few of the innovative programmes introduced by the university are relatively new and mostly unknown and uncommon among the undergraduate students and employers in the country. University systems and procedures for governance and management require further development.

## OPPORTUNITIES

Being a leader in providing excellent Law education, they can also grab opportunities to design courses in collaboration with industries in India to provide more and more placements to their students like a course they have recently started in collaboration with IBM.

Many more foreign students can join in future. More trained faculty in the country can also be hired. University should try tie-ups with government departments, NGOs, and relevant enterprises in corporate sectors to deepen the academic field partnerships and learning.

## CHALLENGES

Since course fee is exorbitant, it may not be possible for the students who belong to Sonipat or other areas of Haryana to get enrolled in courses of global value. Course curriculum should be so designed for them so that they can be at least benefitted from the knowledge and experience shared by international faculty, utilise their library resources, if not able to be a part of student exchange programme and international internships. Funding for students who seek global exposure is a challenge. Moreover subscription of international journals and databases is very high. Data required for research to be conducted by faculty members is also not easily made available by the industry.

## BEST PRACTICES

Learner- centric approach is followed by the institution. Students join hands with faculty in various programmes of academics and sports. Open source Moodle LMS is availed by the faculty to disseminate knowledge and assessment of the students. Various add- on courses like Advance excel, data analytics, statistics, academic English are also offered to the students for their skill enhancement in particular area.

Students undertake extension activities in the neighbourhood of university, Mewat and Kurukshetra district mentored by faculty. There

are mandatory social internships in the area of community service.

There are more than 350 collaborations with foreign universities and other higher education institutes, ten types of partnership with 65 countries. Collaborations are with the following universities:

## International collaborations

University has collaborated with around 34 international universities and institutes of higher education where students can join these universities for a semester or student exchange programme. Michigan, Indiana, Harvard, Yale, Brown, Texas, Cornell, New York, California, York, Columbia, Queen, Carlton, American, St. Mary, Oxford, San Deigo, Mozanbique, Mellbourne, Australia, Sydney are few of the names of Universities with whom Jindals have collaborated. This depicts how tirelessly this university is working to make India proud in positioning India at the top in world university rankings.

## Community service

University has been continuously involved in community service by adopting villages, labour colony project, clinical legal programmes, good governance through citizen participation and many more. Students are also involved in social activities like BALGRAM where they are helping children between the age of 6-13 years to build trust factor, maintain healthy life style, team spirit and leadership qualities. The colony visAit where they also guide children in the colony to how to maintain personal hygiene and give first aid in case of emergency which help in reducing the medical emergencies.

## Reviews

As per the 133 reviews about this university (27th June,2022) from shiksha.com 76% has voted for 4-5 star, Placement reviews 4.0, Infrastructure 4.8, Faculty and course curriculum 4.6, Crowd & campus life 4.5, and value for money 4.2 rating is given.

There are 71,453 followers on Facebook

## Vision for future

In a public document (strategic vision 2029) issued in2018, it is mentioned that guiding principles will remain the foundation for the development of the institution considering all the stakeholders including learners, parents, faculty, national and international partners. These principles are making this university top class multidisciplinary university,having strong impact globally, keeping faculty student ratio at 1:10, best teaching practices followed, becoming more independent financially, serving public and providing best infrastructure.

## Conclusion

It has been observed that Jindal global Institute of eminence, deemed to be university is committed to make this University as number one university world over. UGC has provided recognition as an Institute of eminence to 10 public and 10 private universities and Jindal has secured its place in these top 10 private universities. In world QS ranking three private universities have marked their place and Jindal got top position among these universities from India holding 700th position in world- QS- ranking. Even this university has got 450th position in world- QS-ranking in employer reputation and second highest ranked university in India faculty student ratio. It is also highest ranked university of social science, arts& humanities. Its Law school is number one in India and stepped up to 70th position in world QS ranking in 2022 from 76th in 2021.University is committed to excel in education by providing opportunities to the students from India to benefit from the knowledge and experience sharing by the faculty who are alumni of top class world universities and the industry experts.

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- Strategic vision 2029 document
- ugc.ac.in

# A Study on Awareness and Acceptance of The Digital Accounting Softwares and Ai Among Accountants

**Kamal Kundra***
**Shankar Choudhary****
**Manish Chugh*****

***Abstract:*** *Traditional accounting procedures like keeping journals, ledgers, and other books involve a lot of time and might not be the most effective technique for a modern accounting system. Many technological advancements in accounting have occurred from traditional to modern times. There is no denying that the modern accounting system is more effective and efficient. The modern accounting software industry has experienced fast expansion in recent decades; in fact, the digitalization of accounting raised the need for accounting software and the necessity for regular software updates as new software is developed. Accounting software and computers are used to convert paper data into electronic form. The ability to evaluate and report financial data quickly, effectively, and efficiently has improved because to technological advancement. Nicely-designed accounting software program can assist any business and lessen the charge. These days, the development of Digital Accounting has raised their adoptions among the accountants. As a result, the goal of this study is to assess the popularity and adoption of DIGITAL ACCOUNTING SOFTWARES among the accountants of Delhi City. This paper focuses on how much accounting firms are aware of digital accounting software and its implications and the impact of Covid 19 on the adoptions of various digital accounting software's. The study's findings indicated that the majority of participants were familiar with and already used digital accounting software. Digital accounting software is mostly used by accountants in private businesses, and research has shown that COVID 19 has had little to no impact on this practise.*

## Introduction

Being successful in this ever changing, highly competitive market is essential for business enterprises. As a result, technology is a necessary component for corporate operations to remain competitive, particularly when information is a key aspect in management decisions.

Accounting software is a crucial tool for management to quickly assess the market, define corporate strategy, and gather information for decisions. E-accounting is the use of online and internet technology in the accounting process for businesses. E-accounting is the "Electronic Enablement" of lawful accounting and traceable accounting operations, which were formerly manual and paper based. This is analogous to how e-mail is an electronic version of traditional mail. Through a variety of computer-based accounting technologies, e-accounting entails carrying out standard accounting tasks as well as accounting research, training, and education. Accounting systems, which were created to give

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numbers a meaning and to carry out automatic computations, put financial power in the hands of a non-accounting audience. The business owner may conduct all accounting tasks and adhere to legal requirements from his own computer without having to pay a third party to keep track of his budget with little to no training. In order to enable businesses focus on their core competencies and avoid the hidden costs associated with traditional accounting software, online accounting through a web application is often based on monthly fees and zero administration. The idea that "India is the country which can deliver the finest" may be the driving force behind e-accounting. Consequently, e-accounting has made a trip to India with a rainbow of opportunity. Accounting software is essential for a corporation to completely comprehend its status, assess its performance, and manage a profitable endeavour. Before the invention of the computer, there existed a system that was used to record their business transactions; this system is known as book keeping and accountancy. Accounting software were introduced after the invention of the computer, which was the foundation to utilise the accounting software. This method of accounting is the foundation for any accounting software.

Because accounting serves as the foundation for disclosing financial data about a company entity, it is now referred to as "the language of business." Currently, every company, little or large, has begun utilising accounting software in their operations to record every business transaction conducted by them. Every businessman began by using accounting software in his own business.

**A) STATEMENT OF PROBLEM:**

The research paper's problem statement is as follows:

*"What is the most often used accounting software and what is the level of awareness about digital accounting and its acceptance among accounting practitioners in the city of Delhi, NCR?"*

**B) OBJECTIVES OF THE STUDY**

- To study the various digital accounting software's adopted by the accountants.
- To examine the awareness level of digital accounting software's among the accountants.
- To study the impact of Covid 19 on the adoptions of various digital accounting software's.

**Review of Literature**

***(Chong & Nizam, 2018)*** This study was to examine and analyse how accounting software affects the business performance of Malaysian businesses. The study discussed and investigated how using AIS affects the effectiveness of the firm. The objective of the study was to investigate the impact of software efficiency, reliability, ease of use, software data quality, and accuracy on the performance of businesses. In this study, a quantitative approach was used for the achievement of objectives, using a close-ended structured questionnaire to collect data using a random probability sampling method. The study's findings are anticipated to assist the firm's owners and managers in realising the value of using Accounting Information Systems (AIS) derived from Accounting Software to achieve performance.

***(Lestari & Santoso, 2019)*** A quantitative study was conducted with a sample size of 80 university students to determine the digital literacy, technology literacy, and human literacy required to easily access the work world. The author, with a view of rapidly changing work culture, wanted to check that the future generation is aware of and easily adoptable to the new era of the digital world. The results showed that the influence of digital literacy on work readiness is the highest and the need for improvement in technology and human literacy is required.

***(Rao, 2019)*** This study aimed to evaluate to what extent our youth are familiar with digital accounting. The practise of accounting is evolving due to new technological advancements and financial innovations. The paper tried to find out the awareness of accounting software, its benefits, and how it is helpful in reducing the cost of an organization. The result of the study found that accounting software is favourable to the industry in maintaining records systematically. The most popular software among young people is Tally ERP 9.

***(Rahmayanti & Rahmawati, 2020)*** The efficacy of mobile accounting applications was examined in this study. Effective mobile applications should be simple for small and medium-sized business owners to use in order to generate financial reports that adhere to accounting standards as well as financial statements. The qualitative approach was used for the purpose of data collection through a survey on eight Android-based mobile applications. The study concluded that mobile applications are useful for small businesses but do not provide high satisfaction among users. However, the Zahir Simply Online application provides high satisfaction among others, but still not an outstanding one.

***(Pushpalatha, 2021)*** The author used a mixed method to learn about digital accounting literacy

and its growth in India. The secondary data is received from already published papers, journals, and articles, and the remaining portion of the primary data is collected through direct interviews with professionals. The study talked about different campaigns run for Digital India purposes, digital accounting preference by professionals, and its merits and demerits. Globally, 67% of accounting professionals use cloud accounting and different software for maintaining their records. The study concluded that digital accounting is the future of accounting, so people need to adopt the skill to secure their future in a competitive market.

***(Stoica & Ionescu-Feleagă, 2021)*** The digital transformation in accounting is a boon for industries. This study was a collection of recent academic works on the digitalization of accounting and aimed to provide some insights for future research by using a structured literature review (SLR). It gives a summary of existing literature in the digital accounting field. The result of the study showed that three important areas of digitalized accounting, i.e., accounting education, professional regulation, and accounting information systems, but no academic paper directly related to the impact of digitalization in accounting and the future of accountants.

***(Wardoyo, Satrio, & Rahayu, 2021)*** The focus area of the study was to address the digital literacy among accounting teachers in public and private schools. The case study research was used for data collection with the help of interviews among teachers. The incompetency reasons were lack of time in teachers' due to their busy schedule, e-learning knowledge, weak internet connectivity, and others. The effective use of e-learning technology is done by accounting teachers in doing their work with ease. The number of schools that began providing e-learning education to students following the COVID-19 pandemic. The study concluded that the digital literacy of accounting teachers in public schools is greater than private school teachers.

***(Gonçalves, da Silva, & Ferreira, 2022)*** The study evaluated the impact of digital transformation in the accounting field. The purpose of the paper was to analyse the new threats, opportunities, and challenges in the transforming accounting profession. The qualitative and exploratory approaches were used and the data collected with the help of semi-structured interviews to conclude the study. This paper added new dimensions to understanding the role of accounting and accountants in organisations and society.

## RESEARCH METHODOLOGY

### RESEARCH APPROACH

The current research is based on the empirical research casting light on the different digital accounting software's adopted by the accountants and accountant's awareness level regarding the digital accounting software's and the impact of COVID 19 on the adoption of the Digital Accounting Practices.

### SUBJECT / RESPONDENTS OF THE STUDY

The accountants of various public, private as well as self-employed were chosen as the respondent of study. 50 questionnaires were sent to various accountants of Delhi City, out of which 34 respondents actively participated in the research. The 2 responses received were unfit for the study, rest 32 responses were analysed.

### SAMPLING TECHNIQUE

Snowball Sampling technique is used for the purpose of this study. As the respondents were based on the different city, the population was difficult to reach. With the help of Snowball sampling, the participants were found by recruiting them through other participants. As you make more contacts, the quantity of people you have access to "snowballs."

### DATA COLLECTION

The study is based on the Primary data which is collected from a well-structured questionnaire that was filled by 30 accountants which were based on Delhi City. The questionnaire was sent to the respondents via Google forms on their respective Whatsapp and mails. The respondents were accountants of different age groups.

### DATA ANALYSIS

The Percentage Analysis was done with the help of the various pie charts and bar diagrams.

### HYPOTHESIS

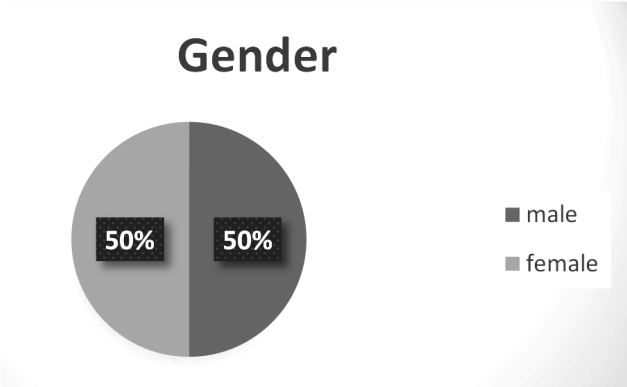
H1: The majority of accounting professionals probably weren't familiar with digital accounting software.

H2: Most of the accountants were applying conventional accounting techniques.

H3: Before COVID 19, digital accounting software was in use.

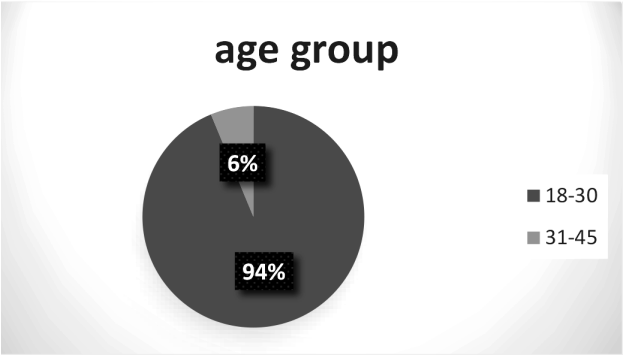
## RESULTS

### DEMOGRAPHIC PROFILE OF THE RESPONDENT




(Fig 1)

| Gender | Respondents | Percentage |
|---|---|---|
| Male | 16 | 50% |
| Female | 16 | 50% |
| Total | 32 | 100% |

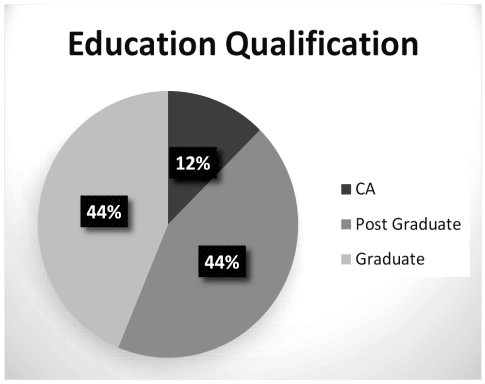



( Fig 2)

| Age Group | Respondents | Percentage |
|---|---|---|
| 18-30 | 30 | 94% |
| 31-44 | 02 | 06% |
| Total | 32 | 100% |

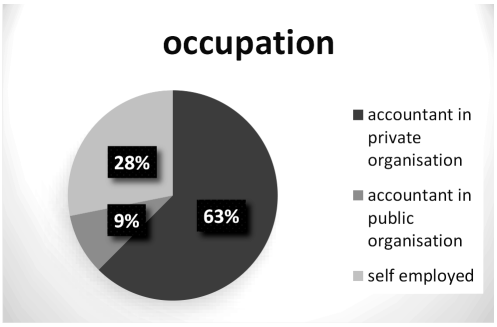
**INTERPRETATION:**

Out of the 32 respondents in the first chart, there were exactly half men and half women. In the second chart, out of all the respondents, 30 are between the ages of 18 and 30, and 2 are between the ages of 31 and 45.




(fig 3)

| Education Qualification | Respondents | Percentage |
|---|---|---|
| CA | 04 | 12% |
| Post Graduate | 14 | 44% |
| Graduate | 14 | 44% |
| Total | 32 | 100% |

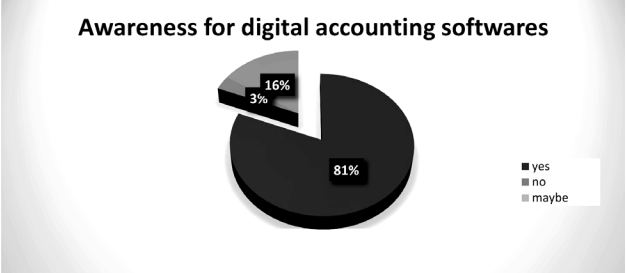



(fig4)

| Occupation | Respondents | Percentage |
|---|---|---|
| Accountant in Private Organisation | 20 | 63% |
| Accountant in Public Organisation | 03 | 09% |
| Self employed | 09 | 28% |
| Total | 32 | 100% |

**INTERPRETATION:**

In the above chart number 3, 12% of respondents studied chartered accountancy, 44% were post-graduates, and 44% were graduates. In the above chart number 4, however, 63% of respondents are accountants who work for private organisations, 9% are from the public sector, and 28% are self-employed.



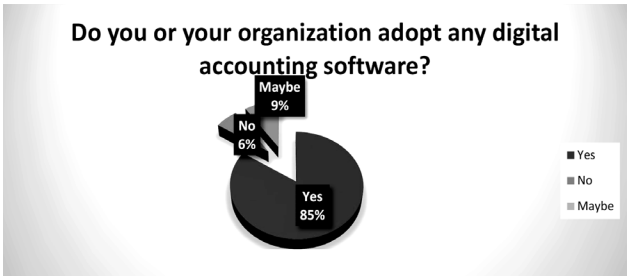

(fig5)

| Do you know about the Digital Accounting Software? | Yes | No 1 | Maybe |
|---|---|---|---|
| | 26 | | 5 |

**INTERPRETATION:**

According to the aforementioned table and graph, 81% of accountants are aware of digital accounting software, 16% are unsure of their level of understanding, and only 3% are unaware of its existence

| Do you or your organization adopt any Digital Accounting Software? | Yes | No 2 | Maybe |
|---|---|---|---|
| | 27 | | 3 |

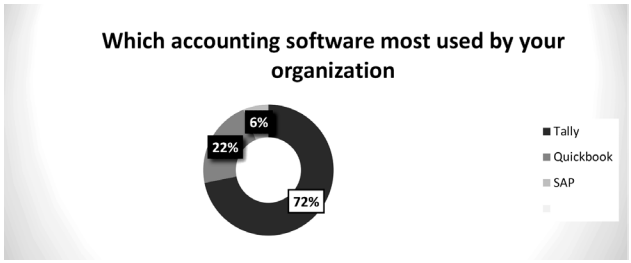



(fig 6)

**INTERPRETATION:**

According to the graph above, 85% of the population has already accustomed to using digital accounting software. Only 6% of respondents indicated that they had not yet adopted digital accounting software. 9% of respondents are unsure of whether or not they use digital accounting software.

| Which accounting software is most used by your firm? | Tally | Quickbook | SAP |
|---|---|---|---|
| | 23 | 7 | 2 |

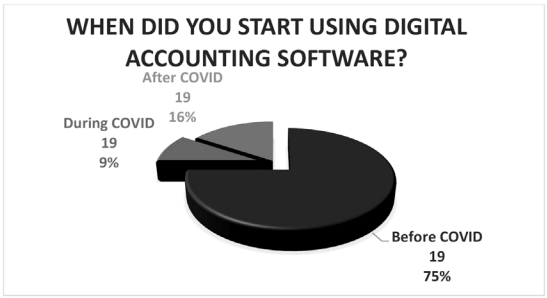



(fig7)

**INTERPRETATION:**

The tally being the most popular accounting software's is leading among the two software's with 72%, which is extensively used for accounting purposes. Quickbook is in a strong second place, while SAP is in last place with a percentage of less than 6%.

| When did you start using Digital Accounting Software? | Before COVID 19 | During COVID19 | After COVID 19 |
|---|---|---|---|
| | 24 | 3 | 5 |




(fig8)

**INTERPRETATION:**

According to chart number 8, the majority of accountants who responded said they were already using digital accounting software before COVID hit.

**FINDINGS:**

The adoption of digital accounting software, its awareness, and the potential effects of COVID 19 on its use were all noticed as a consequence of a methodical analysis of the data collected for the present study.

H1: REJECTED: 32 respondents, or almost 81% of them, said they were familiar with digital accounting software. H1, the majority of accounting professionals probably weren't familiar with digital accounting software, was therefore not accepted.

H2: REJECTED: From 32 responders, 85% are adopting the use of digital accounting software. Consequently, H2, most of the accountants were employing conventional accounting techniques was not accepted.

H3: ACCEPTED: Earlier than the COVID 19 period, accounting firms anticipated using digital accounting software. Digital literacy existed prior to COVID 19. It may be argued that the COVID 19 has only served to increase the desire to become wholly reliant on digital accounting software.

## CONCLUSION:

There have been numerous talks regarding how the future of the accounting profession will be impacted by the digitalization of accounting systems within the financial ecosystem and huge auditing companies. They will play a bigger, more important, and more critical part in the financial planning of an organisation. Digital accounting technological improvements are anticipated to meet the enormous demand for "data on demand" as well as easily retrievable data.

Businesses now have the convenience and ease of managing their operations more efficiently and proactively while providing better service to their clients thanks to the digitised accounting. Additionally, to live and thrive in a post-pandemic environment, businesses will need to embrace digitization. An ever-increasing amount of importance is being placed on accounting. But competing in a global market comes with a new set of accounting difficulties. All systems and applications for managing and processing financial data are gathered under one roof by accounting software, which is a solution.

I discovered during my investigation that businesses can record their transactions more easily using accounting software. Tally is a well-known piece of software among accountants The accountants choose this programme over other software by a wide margin. The accountants believes accounting software is useful. This study demonstrates that accountants are aware of digital accounts pre-covid and they are sufficiently awared about the digital accounting software's.

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# A Study of Porter's Diamond Model of National Advantage

**Sweta Bakshi***

**Ajay Kumar****

***Abstract:*** *Porter's Diamond Model proposes that the national home base of an industry plays an important role in achieving an advantage on a universal scale. Porter identified four determinants in attaining a national competitive advantage. Porter's Diamond framework consists of a system of four mutually reinforcing factors: factor conditions, demand conditions, related/supporting industries, and firm strategy, structure and rivalry. Nations can use Porter's diamond model to identify the opportunities and build on home based advantages to generate a competitive advantage and compete with others nations globally. This analysis helps to understand the relative strength of one company to another. Through the analysis of the external environment, it is also possible to decipher the reasons for the industrial advantage of certain firms in a particular location or region*

## Introduction

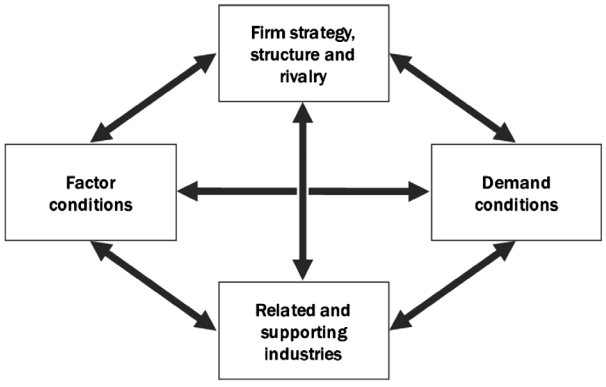
Michael Porter introduced the diamond model of national competitive advantage (1990) to explain why a number of countries are more competitive than others and why a number of businesses within the countries are more competitive. Porter's Diamond Model proposes that the national home base of an industry plays an important role in achieving an advantage on a universal scale. This home base contributes the essential factors that will support the organisations in building advantages in global competition.

Porter identified four determinants in attaining a national competitive advantage he concludes that a combination of the four determinants within a nation has an enormous influence on the competitive strength of the firms located there. Porter argues that competitive industries take the form of specialized clusters of home based firms. Clusters are correlated through vertical relations such as buyers integrating with suppliers or through horizontal relations through customers, technology, skills, distribution channels etc. These specialized clusters will enable a nation to create business system which will lead to competitive advantage and economic success. Japan's automobile industry and US semiconductor industry have both been linked to Porter's diamond model in creating unique business systems and competitive advantage over other industries.

Porter's Diamond framework consists of a system of four mutually reinforcing factors: factor conditions, demand conditions, related/supporting industries, and firm strategy, structure and rivalry . If these conditions are favorable, domestic companies will continuously innovate and as a result, they will remain competitive internationally. On the other hand, unfavorable conditions will result in the inability of these companies to compete globally.

## Component #1: Factor Conditions

This component in the diamond refers to the

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availability of natural, capital, and human resources. Some countries can be rich in natural resources, such as Saudi Arabia which has ample oil reserves, and Qatar, which is rich in natural gas. Other countries, such as Singapore, are rich in their human resources. Being rich in human resources (or human capital) means that the country has created factor conditions that foster the establishment of a skilled labor force. This usually means that the nation has created excellent infrastructure and a solid scientific knowledge base. These "created" factors are much more important than "naturally" occurring factors as they ensure the country's competitive advantage over the long term. Venezuela, compared to Singapore, is a good case in point. With a population of 32 million, Venezuela has the largest proven oil reserves in the world 7 while Singapore has barely any natural resources. Yet Singapore, with no natural resources, has a $90,000 GDP per capita compared to $11,000 for Venezuela 8. In the long term, human capital development is what counts. How does Singapore do it? The country is keenly focused on developing, and continuously revising, its human resource strategies in conjunction with other national strategic economic policies 9.

## Component #2: Demand Conditions

Local demand has a sizeable effect on how well industries within a certain country do. While a larger market can present more challenges, it also creates opportunities for businesses within that industry to grow and flourish. The constant demand from local customers will push companies to grow, innovate, and improve quality. This can also lead companies to venture beyond their borders and compete internationally. Take the airline industry as an example. Spurred by strong local demand (from both companies and the government), Boeing grew to be one of the leading aerospace manufacturers in the world. Nations can gain a clear competitive advantage in industries where demand from local customers puts pressure on companies to always do better.

## Component #3: Related and Supporting Industries

It is difficult for an industry to grow without a supporting ecosystem that can provide technology and spare parts. This support is especially important as the industry grows more complex. The presence of capable suppliers within a nation is key for the development of companies that use those suppliers for cost-effective access to quality inputs. In addition, the sharing of knowledge and information between suppliers and manufacturers gives companies within an industry early access to new products. For example, within the computer industry, Apple benefited widely from the existence of highly capable suppliers who not only manufactured parts, but also supplied Apple with innovative products that spurred growth. The mouse that Apple popularized in its Lisa system in 1983 was, in fact, first invented by Xerox. While Xerox is about to disappear into Japan's FujiFilm 10, Apple is one of the most valuable companies in the world. Therefore, a supporting ecosystem is critical to any industry's success, for without it, other companies in other countries will surely steal the show.

## Component #4: Firm Strategy, Structure, and Rivalry

While the first 3 components are straight forward, this is the one component that countries get wrong. The competitiveness of firms in any country is largely determined by how those firms set strategy and structure themselves. Governments can impact this with laws that establish corporate governance rules. In addition, firms within an industry will be positively affected by a certain level of competition in that country. This is sometimes counterintuitive to many governments who prefer to protect their companies by limiting competition. This is dangerous, because in the long-term it will lead to an industry's demise. When companies face no competition, they grow lazy and fail to innovate. And when companies fail to innovate, they die. It's that simple. That is why governments must focus on ensuring that there is healthy competition between different firms. The US government is a good example as it has enacted antitrust laws (the laws that ensure competition) that exist in an open-market economy and that are meticulously implemented. In 1998, when the US government felt that Microsoft was cornering the operating system and browser markets, they threatened to break the company up.

Porter's Diamond Model is a framework that explains why industries in some countries are much more developed and competitive compared to industries elsewhere. In our globalized world, remaining competitive in the long term is a must. There are different tools that can help government policy makers analyze possible policies. Porter's Diamond Model is a powerful framework that can be used both to describe the sources of a nation's competitive advantage and the path to obtaining such an advantage.

Factor condition is the nation's position on factors of production that is necessary to compete in a given industry, for example skilled labor or infrastructure. These national factors often provide initial advantages for the nation. Each nation possess particular factor conditions that are more favorable to develop business systems and industries. For example, Japan's large pool of engineers which is reflected by the number engineering graduates has been essential to Japan's success in variety of manufacturing industries. Porter points out that these factors don't have to be nature made or inherited could expand and change over time.

Home demand conditions can influence the creating of specific factor conditions which can affect the direction of the innovation and advancement of product development. Porter argues (1990)

that home demand is rests upon three major characteristics. First the mixture of customer's needs and wants. Second the demanding buyers in the home base will pressure companies into meeting high standards. For example Japanese consumer's value space-saving gave the nation a lead in compact products and America's long distances have led to competitive strength in very large truck engines. Third, an industry will have an advantage in market segments which are more important at home than elsewhere. In each of these instances, it is not the size of the home market that is important, but the extent to which it encourages firms to innovate. A large home market which meets all three conditions will be highly supportive of international competitiveness.

A related and supporting industry is when one globally successful manufacturing company can create advantages in other similar manufacturing companies. A nation's industries will be better able to compete internationally if there are 'clusters' of industries in the home base economy which are linked to each other through vertical or horizontal relationships amongst supplying, customers and distribution channels. For example Denmark has a cluster in health and home products, Germany in chemicals and USA in the semi-conductor industry.

The firm structure, strategy, and rivalry are the conditions governing how businesses are shaped, managed and deal with domestic rivalry in a nation. The cultural factors are important for each nation. For example each country will have different cultural traits in which the business is structured, the working morale within the workforce, or interactions between companies are shaped. This will create benefits for each nation and industry. In Japan the automobile industry rivalry is strong it has seven major companies: Toyota, Honda, Nissan, Mitsubishi, Suzuki, Mazda, and Subaru which all fight for the market share. These seven businesses compete intensely in the home nation, and other nations and markets. Strong domestic competition demands all these businesses to have superior technologies, products, and management practices to compete and survive, for example there is high number of engineers in management that emphasis on improving manufacturing processes. Whereas the US has only two businesses in automobile industry which are Ford and General Motors this is due to Daimler Chrysler merger. Therefore the US hasn't got a strong domestic competition in Japan. This strong domestic competition has resulted in the Japanese businesses grabbing market share in the US to survive.

In addition to the four conditions, Porter points out two important components which are the role of chance which are important as it allows nations to shift their competitive position and alter the conditions of the diamond model. Chance events have different impacts on nations for example the oil shock helped upgrade Japanese industry. The role of the government is an important influence on modern international competition. The governments can put forward the policies a nation should follow to create advantages, enabling the industries in a nation to develop a strong competitive position globally. For example the government policy for Japan and Korea has created success for these nations. According to Porter governments can progress the advantages by ensuring there is high potential of product performance, ethical standards, or encouraging reasonability and negotiation between the suppliers and buyers on a domestic level.

## Significance of Porter's Diamond Model

Nations can use Porter's Diamond Model to identify the opportunities and build on home based advantages to generate a competitive advantage and compete with others nations globally. Japanese owes its success to the automobile industry. In the 1970s the Japanese had labor cost advantages, strong networks of suppliers, very demanding consumers which enabled the industry to gain competitive advantage over other nations. Porter captures the essence of what is really important on training, education, domestic competition, automation. These are the core of competitive advantage. However he underplays the role of history, politics and culture in determining competitive advantage, so as a result of defining the problem incompletely, he offers an incomplete solution which shows other ideas are required to explain various business systems and comparative economic performance in nations.

## Limitations

There are limitations to Porter's diamond model. The diamond conditions emerged from examining the history of 100 industries, but to do this thoroughly histories would have to be written in the form that would allow such analysis. The detail would require the company histories. Neither the references nor the acknowledgements suggest any such documented histories of 100 industries. The four histories quoted from Porter's research were German printing press industry, American patient monitoring industry, Italian ceramic tile industry and the Japanese robotics industry which are just sketches that illustrate rather than test the theory. The theme of competitive advantage needs to go well beyond aspects of business management and many of the important questions are not even put or even claimed to be solved in Porter's diamond model.

Porter's diamond model describes the national environment in which firms are competing in, showing the variations of business systems and comparative economic performance. Porter agrees in that national culture is an important detriment in the competitive advantage of nations, but does not include national culture in his descriptive framework of the diamond. National culture has an important impact on relations between related and supporting industries in different parts of the world. Other critics consider that culture is under-represented in the analysis and that a 'double-diamond' approach

that places the economy in its proper international context is preferable.

## Analysis

To stress the importance of national culture to competitive advantage, Porter's diamond model has to be combined with the dimensions of national culture found by Hofstede (1980). Hofstede developed four dimensions of national culture which are: individualism versus collectivism, large or small power distance, strong or weak uncertainty avoidance and masculinity versus femininity. These four dimensions help to understand the underlying concept of uncertainty which plays a major role in theories of the business environment and can contribute to the nation's competitive advantage. The way people and organisations cope with the uncertainty, in their environment is found as an important dimension of national culture by Hofstede. As it is the extent in which individuals in a society feel the need to avoid ambiguous situations and the extent to which they try to cope and manage these situations.

Porter stresses the importance of the relations between related and supporting industries in his diamond model. Relations between people are known to be influenced by national culture.

In terms of uncertainty avoidance, countries which are to be characterized as strong uncertainty avoiders, people tend to stabilize the relationship they form. In countries with less need for uncertainty avoidance, relations are much looser and hesitation to change is smaller.

For example, Hofstede (1980) found that the difference in uncertainty avoidance between Japan and Western and Northern Europe is large. Japan is, compared to Western and Northern Europe, a very strong uncertainty avoider. Hofstede argues that the variations in values between cultures will require the difference organisational responses. The economic environment of a nation can be determined by the cultural values. The Japanese stress on the importance of 'uncertainty avoidance' and social stability can guarantee job security, while Anglo-American economies are based on a large percentage on labor market mobility in which individuals are prepared to accept greater uncertainty about future employment. Japanese is a collectivism society that support group achievement whereas Anglo-American is an individualism society that support personal incentives. Japan's biggest automobile company is Toyota, when it faced financial crisis during 1940s, the culture traditions of collectivism within the organisation supported the company to adapt to new changes following the "Toyota Way". It developed unique plants based on specific context as defined by its history, culture and leadership.

Porter neglects the role of historical cause in his diamond model. In the case of Germany and Japan for example, there is probably a direct connection between past militarism and the present industrial domination. Militarism has contributed to industrial excellence by creating a tradition of discipline in the labor force for both of these nations. Germany's and Japan's competitiveness owes a great deal to its amoral military past. Particular historical events can be unique to a country which can determine its character. The occurrence of invasion and revolution is a shared experience amongst many successful nations in history. The countries that have had democratic freedom of organisation without invasion in the past will suffer the most from growth repressing organisations. Nevertheless Porter's diamond model didn't consider how the history of a nation has an effect on competitive advantage of nations.

Krugman (1994) criticized Porter's diamond model and described the claim that competition within nations as 'a dangerous obsession' and argues against Porter's diamond model. The main points to his argument are that: nations are not like firms and the concept of national competitiveness is elusive. International trade is not a zero-sum game for example Krugman points that major industrial countries sell products that compete with each other but are in fact each other's main export and each other's main suppliers of imports. If the European economy does well this is not the expense of US. On the whole Krugman states that competitiveness is a meaningless word when applied to national economies and the obsession with competitiveness is both wrong and dangerous. It could result in wasteful spending of government money, could lead to trade wars, and could result in bad public policy on a spectrum of important issues. Dicken (1994) also agrees with Krugman arguments and criticizes Porter national competitive advantage model. He states that the theory is highly reductionism in compressing complexity into a simple 'diamond' model. It minimizes the role of the state in pursuit of national competitiveness and doesn't explain how to achieve the four determinates.

Reich (1991) argues that the concept of national competitiveness explained by Porter must be revisited; he argues that economic success is due to national purpose rather than national competitiveness. Nation competitiveness depends on globalization and the 'skills, training and knowledge' commanded by its workforce, the key to success is the people of the nation. Reich argues that national industries don't exist in any meaningful sense, as it is global corporate networks rather than national industries that now dominate economic activity. Resources are placed in those nations offering the best production and marketing advantages. However Porter makes a strong case of the importance of the home country in today's global economy. Porter argues that by providing a favorable environment for the successful organisations, home countries can play a vital role in wealth creation in the context of international competition, showing the variations of business systems and comparative economic performance.

Its also found that Porter's diamond model doesn't explain the international competitiveness of small, open, trading nations such as Canada, New Zealand and Korea. Modifications of the Porter framework are required to analyse the nature of Canada's foreign owned businesses such as the Canada-US free trade agreement. The arrangements states that the Canadian diamond can be jointly combined with the US diamond, Canadian managers will need to function in this 'double diamond' framework. A major problem with Porters model is due to the narrow definition that he applies to foreign direct investment (FDI). Porter defines only outward FDI as being valuable in creating competitive advantage and the inward FDI is 'not healthy'. He also states that overseas subordinates are importers and that this is a source of competitive advantage. This is not the case for Canada as 70% of Canadian inward FDI trade is done by 50 multinationals with half of these being foreign owned. Also a huge part of Canada's auto industry is US owned. For example Ford and Chrysler have substantial inward FDI in Canada. They are making valuable contributions to Canada's manufacturing sector and international competitiveness. Porter's view on the role of national resources is old fashioned and misguided. Its found hat over time Canada's resource based industries have developed sustainable competitive advantages for the nation.

Overall Porter's model (1990) of national competitive advantage to an extent does account for the variations in national business systems and comparative economic performance across different nations and industries. However Porter's Diamond Model doesn't consider and explain how culture, history and globalization can have an impact on the economic success of a nation and the variations of business systems.

Another point to consider is it unlikely for a nation to control or dominate an industry entirely. For example Japan makes outstanding automobiles, but this does not stop other nations such as UK or Germany from competing in the industry.

## Conclusion

Porter's diamond model, also known as the theory of national advantage, is used by various economic institutions to calculate the external competitive environment. This analysis helps to understand the relative strength of one company to another. Through the analysis of the external environment, it is also possible to decipher the reasons for the industrial advantage of certain firms in a particular location or region. In summary, the six determinants mentioned above in the national context – factor conditions, demand conditions, related and supporting industries, business strategy, structure and rivalry, government and luck – can accelerate or slow down the success rate of a given firm in a given industry in a given country. This success can lead to domestic demand, which in turn leads to increased competitiveness in the global market, creating a competitive advantage for a particular company. Discrediting Porter's diamond model will not justify his contribution, but we cannot ignore the criticism that his theory of competitive advantage has generated.

Some critics point out that the list of internal determinants is limited because there may be many other factors that could be listed. Other arguments point to the avoidance of taking externalities into account. The emphasis was more on the internal image and less on the global level. Some authors even point out that this diamond theory is not universal, but rather limited, since it was based on a study of only ten developed countries. It is therefore no exaggeration to state that Porter's diamond model is largely applicable to the developed countries studied. Finally, the disadvantages of applying the model only to physical products and not to services were pointed out. The model does not consider how it would apply to the service sector of the economy.

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# A Study of Internationalization Concept - The Uppsala Internationalization Model

**Sandeep Kumar***

***Abstract:*** *Internationalization consists of standardized products or service through globally standardized marketing and production processes that target standardized customer needs. Internationalization fundamentally alters the price-setting strategies of domestic economic agents. In general, the majority of the authors are in the opinion of describing internationalization process theories through experience and practice. The Uppsala Internationalization Model was an outcome of Swedish researchers (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977) which focused their interest on the internationalization process. The Uppsala Internationalization Model is founded on four core concepts: Market knowledge, market commitment, commitment decisions and current activities. The Uppsala model had been the pioneering work on internationalization process and had withstood the test of time.*

## Introduction

Internationalization consists of standardized products or service through globally standardized marketing and production processes that target standardized customer needs. Internationalization can be described as the process of increasing involvement in international operations. Another definition denotes internationalization as the process of adapting firms' operations (strategy, structure, resources, etc) to international environments. Both definitions emphasize the crucial fact that internationalization needs an overall support from the organization as it is changing the environment to expand in various manners the process mostly consists of macro factors to evolve.

## The Process of Internationalization

Internationalization fundamentally alters the price-setting strategies of domestic economic agents. This is true for agents operating in product markets, factor markets and financial markets. At a micro level, internationalization directly alters pricing behavior by deepening product and factor markets. More potential buyers and sellers imply greater competition and a reduction in excess returns. At a macro level, internationalization also has the potential to change the incentives faced by public policy makers.

From the above definition it can be derived that trade between two or more nation where there is potential buyers and sellers of good in which the pricing behaviors may alter from product and various factors involved in market which directly or indirectly benefits consumers. The factors involved in these process may vary from place to place but to enter new market knowledge is essential. It can be complex as policy and regulations change as per the market. It can make potential market for customers. There are various unions to promote international trade such as WTO (World Trade Organisation), EU (European union), ASEAN (Association of South-East Asian Nations), NAFTA (North American Free Trade Agreement), AFTA (ASEAN Free Trade Area), COMESA (Common Market for Eastern and Southern Africa) etc. They encourage the trade within the members union.

## Literature Review

In general, the majority of the authors are in the opinion of describing internationalization process theories through experience and practice. Experience, developed through learning in the steps in international markets, is crucial in this procedure. Limitations such as lack of knowledge and uncertainty are deterrent effects to the internationalization process ( Blomstermo & Deo Sharma, 2003, p. 19). The reason to focus on the Uppsala model by Johanson and Vahlne is that it tries to explain the internationalization process of firms through experience and knowledge learned. It is especially suitable to explain small and medium size enterprises in their growth plan and also explains the approach from firms to start expanding and investing in nearby markets due to psychic distance between the domestic and foreign market. In 2009, Johanson and Vahlne reviewed their model and concluded that their model is also applicable

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to large firms and corporations as such (Johanson & Vahlne, 2009,p. 1425). Internationalization could be understood by situational logic. Although the principles may be well established, the conditions under which those principles operate may be varied and variable in such a way that general rules are hard to follow. The barriers to internationalization and its process change over the company's life and industry, making the internationalization process a dynamic movement, which is hard to understand within a static framework (Zan et al., 1993, p. 94). Erdil's research of Turkish firms show that the investment has been done with exports first, and later in the process adding further commitments in form of subsidiaries to the country. These cases also show that once a company went into a foreign market, their expanding activities rely on more direct investments and partnerships later on (Erdil, 2012, p. 1248). Stenberg mentions in his research paper that companies should look for their ability to change and develop a steering system together with their internationalization process (Stenberg, 1992, p. 1).

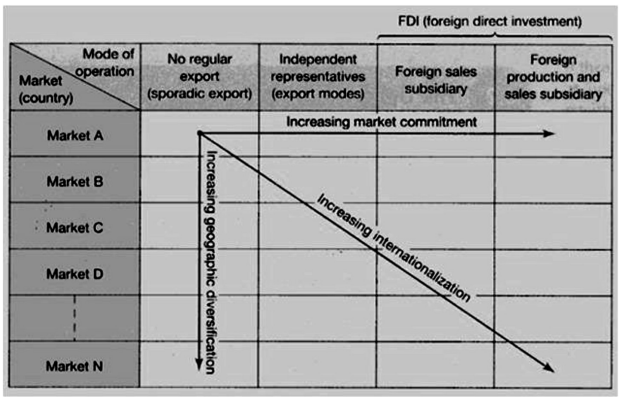
## The Uppsala Internationalization Model

The Uppsala Internationalization Model was an outcome of Swedish researchers (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977) which focused their interest on the internationalization process. Studying the internationalization of Swedish manufacturing firms, they developed a model of the firm's choice of market and form of entry when going abroad.

The Uppsala model is one of the best known models of how firms set about the internationalization process. It presents a sequential approach, meaning that the firm internationalizes incrementally. The model assumes that there is a lack of knowledge of the foreign market which is detrimental to internationalization. Therefore it suggests that a firm should firstly establish itself in its domestic market, and then increase its commitment and resources in the target country in stages, progressing to the next stage once sufficient understanding and knowledge of the foreign market conditions have been attainted.

It is seen that companies begin their operations in abroad in fairly nearby market and gradually penetrated distant market. Companies should entry in new market with the export agents and sales subsidiaries. The approach specifies direct relation between market knowledge and market commitment is postulated, as knowledge can be gathered with effective use of human resources. Consequently, the better knowledge about a market can be derived, the more valuable are the resources and the stronger the market position of the firm. Uppsala approach requires general knowledge and market specific knowledge, where as market specific knowledge can be derived from practical experiences by entering the new market. However the approach stress on experimental learning as it cannot be acquired by objective knowledge (e.g., through marketing researches or reports) and must be gained mainly through direct experience. As the approach deals with experimental learning the human resource should be managed in proper manner.

It has distinguished between four different modes of entering an international market, where the successive stages represent higher degrees of international involvement market commitment. They as follow;




Stage 1: No regular export activities (sporadic export).

Stage 2: Export via independent representatives (export modes).

Stage 3: Establishment of a foreign sales subsidiary.

Stage 4: Foreign production manufacturing units.

These four stages deal with as no regular export activities in new market and knowing the market by experimental learning which helps in utilization of resources in effective ways. Exporting through independent agent can be suitable way of entering in new market as most of the firms prefer the way of entry.

Consequently, the threats and opportunities in a new market will be discovered primarily by those people who are working there. Experience generates business opportunities and constitutes a driving force in the internationalization process.

The Uppsala Internationalization Model is founded on four core concepts: Market knowledge, market commitment, commitment decisions and current activities. Market knowledge and market commitment at a certain point in time are assumed to affect the commitment decisions and how the activities are carried out in the subsequent period, which in its turn will influence market knowledge and market commitment at later stages. On the basis of these four concepts, and by making the assumption of instrumentalism, the model predicts that the basic pattern of firms' internationalization is to start and continue to invest in just one or in a few neighboring countries, rather than to invest in several countries simultaneously and that the investments in a specific country are carried out cautiously, sequentially and concurrently with the learning of the firm's people operating in that

market. Firms are supposed to enter new markets with successively greater psychic distance and the market investments develop according to the so called establishment chain.

The Uppsala Internationalization Model deals with entering new market which is nearby or investing in single country rather than making a mess. It has leapfrogging tendency which allows entering in distant market. It shows companies can learn from their past experiences and practical knowledge. In these cases, competitive forces and factors override psychic distance as the principal explanatory factor for the firm's process of internationalization. Furthermore, if knowledge of transactions can be transferred from one country to another, firms with extensive international experience are likely to perceive the psychic distance to a new country as shorter than firms with little international experience it can affect the smaller firms in case of psychic distances. The approach requires long term involvement in market to gain knowledge. The approach can be cost efficient to apply at initial stage but can take long time evolve the production barriers.

The Uppsala Internationalization Model underlies crucial importance people interest involved in the process. By sales subsidiaries it can be easy to find problems and opportunities in the market.

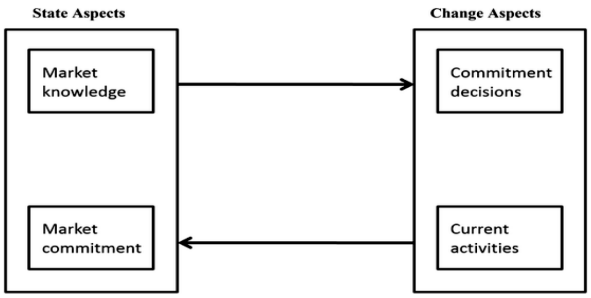
## Why and How do Firms Internationalize: the Uppsala Model of internationalization

Internationalization is usually gradual and evolutionary (Internationalization Process Model). Slow internationalization results from the uncertainty and difficulty that managers have about doing international business. Usually internationalization starts in foreign markets close to the home market in terms of "psychic distance" Psychic distance: due to factors that make difficult to understand foreign environments; it determines the liability of foreignness.

## How Netflix Expanded to 190 Countries in 7 Years

**Three-stages strategy of Netflix**

- Partnering with key local companies(e.g. with a phone company – Vodafone – to integrate their on-demand-offering)




- Producing original content in 17 different markets, both local-for-local, and local-for-global
- Using deep customer insight for international markets, using that knowledge to create content that appeals to a wide range of customer segments
- Country-specific knowledge is critical for success in local markets: understanding local cultures ensured Netflix could be sensitive to and respond to differences

## Conclusion

The Uppsala model had been the pioneering work on internationalization process and had withstood the test of time. Where researchers observed behavior contrary to the Uppsala model, it was explainable due to the experience of the firm in internationalization The Uppsala model examines the internationalization decisions in two parts: the choice of country/market and the choice of the mode of entry. The choice of country and the choice of the mode of entry are determined by the psychic distance ceteris paribus. That is, the internationalization will take place in stages where firms will go through different stages of investment starting from export through wholly owned manufacturing subsidiary in countries of lower psychic distance first and then on to countries of higher psychic distance.

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# Central Bank Digital Currencies (CBDC): Trends And Future Research

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***Abstract:*** *In recent years, many countries have shown their interest in Central Bank Digital Currencies (CBDCs) due to the quick technological advancements taking place in the financial world. The term digital currency refers to the digital representation of a country's fiat currency issued and regulated by the central bank. Ten countries including India have already launched their CBDCs. The first digital currency was the Bahamian Sand Dollar launched by Bahamas in October 2020. There is a strong need to investigate the potential for the development of CBDC and its impacts on national monetary policy. The present study examined the research trend in the field of CBDCs from 2018 to 2023 with the help of bibliometric data extracted from the SCOPUS database. Biblioshiny and VOSviewer techniques are used to understand the evolution of the topic. The study identifies the most important publishing source, the most contributing author, and their collaborations. It also presents developing areas of study in central bank digital currencies through keyword analysis of the retrieved literature.*

***Keywords:*** *Cryptocurrency, Central bank digital currency, Central Bank, Bibliometric analysis.*

## Introduction

Digital technology has changed the financial system. Despite the fact that information technology and communication have been improving for a very long time, the last decade has seen a number of significant developments. The Covid-19 pandemic may have sped up technological development even more (Ozili 2022). As a result of these developments, various central banks and governments have intensified their efforts to explore the prospect of developing a digital form of fiat currency. CBDC (Central Bank Digital Currency) is a digital or virtual currency issued, monitored and controlled by a country's central bank. Since its introduction, the CBDC system has been the topic of extensive discussion and research within the financial industry. Many countries have started developing their very own digital currencies to be issued by their central banks. The Central bank will recognise digital money as a valid form of payment and regard it as legal tender. The world is headed toward a future with a digital economy and a future that uses digital currency (Ian Smith 2022). In October 2020, the Bahamas introduced the Sand Dollar, the world's first digital money. Since then ten nations, including India, have introduced CBDCs in their own country. There is a need to examine the state the of CBDC study, as well as its prospects for future development, and how they might affect national monetary policy.

### RESEARCH OBJECTIVES

The present study has the following specific objectives:

1. To recognise the most influential journals publishing on CBDC,
2. To identify the top contributing authors and countries in the field of CBDC studies and their collaboration.
3. To discover the most used keyword in the CBDC studies.

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## DATA AND METHODOLOGY

In order to evaluate the development of CBDC research, the present study employed bibliometric analysis. By assessing the quantity, accessibility, output, quality, and citations of a topic's scholarly literature, bibliometric analysis can give insight into the growth of the subject as a whole (Khatib et al., 2022). For the purpose of the bibliometric analysis, the SCOPUS database was examined for the research publications on CBDC. Advanced search using the relevant keywords like "Central Bank Digital Currency" OR "CBDC" was used to search for the study on SCOPUS databases. Studies that included these two search strings either in the title and/ or keywords and/or abstract were selected for the study. Original research publications, books, book chapters, and conference papers are all used in this study. Irrelevant and duplicate articles were extensively scrutinized and eliminated to make the data set more reliable. For the purposes of analysis and purification, the abstracts of the publications were then extensively validated and filtered. Finally, out of 200 documents, 177 publications starting from the year 2018 to 2022 have been selected for the study as shown in Figure 1.

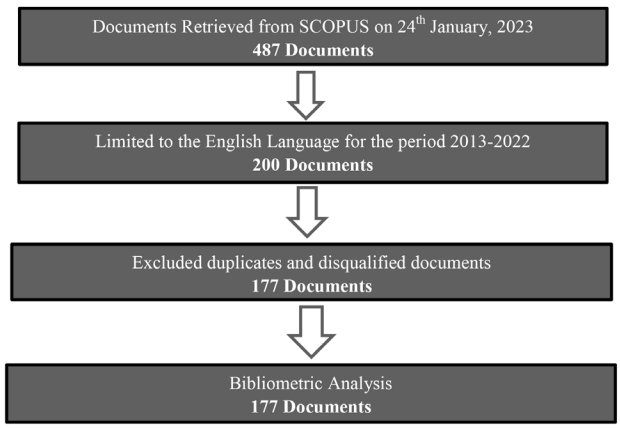



Figure 1: Publication Selection Process

The documents were then analysed using the programs available like Biblioshiny and VOSviewer. The investigation employed two different types of bibliometrics analysis viz. performance analysis and science mapping. Science mapping discusses the interrelationships between various research components, whereas performance analysis investigates the contributions of constituents of research, such as authors, journals, institutions, and countries. In order to plot the network maps, VOSviewer software is used. VOSviewer is a powerful program for making graphical maps based on correlations with objects of interest. VOSviewer software is also used to generate bibliographic maps for the study's primary focal points like keywords, document citations, authors, organisations, nations, and journal networks (Nobanee, 2021).

## FINDINGS AND DISCUSSION

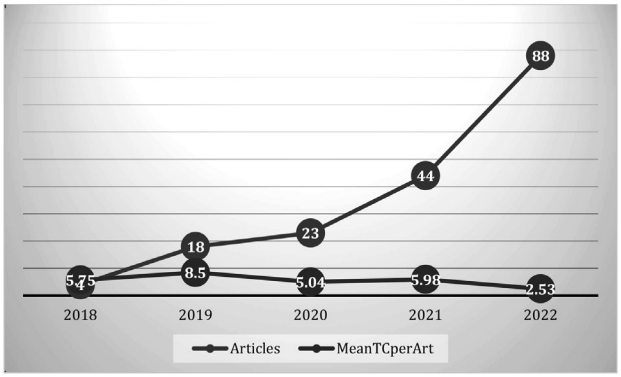
This section of the paper discusses the findings from the bibliometric analysis performed on the 177 publications extracted for the research. The most important details of the retrieved data are tabulated in Table 1.

**Table 1: Main Information of the Data Retrieved**

| Description | Results |
|---|---|
| MAIN INFORMATION ABOUT DATA | |
| Timespan | 2018:2022 |
| Sources (Journals, Books, etc) | 107 |
| Documents | 177 |
| Annual Growth Rate % | 116.57 |
| Document Average Age | 1.9 |
| Average citations per doc | 4.395 |
| References | 7307 |
| AUTHORS | |
| Authors | 335 |
| Authors of single-authored docs | 72 |
| AUTHORS COLLABORATION | |
| Single-authored docs | 76 |
| Co-Authors per Doc | 2.06 |
| International co-authorships % | 19.21 |
| DOCUMENT CONTENTS | 76 |
| Keywords Plus (ID) | 199 |
| Author's Keywords (DE) | 416 |
| DOCUMENT TYPES | |
| Article | 131 |
| Book | 1 |
| Book chapter | 23 |
| Conference paper | 10 |
| Note | 8 |

Source: Retrieved from Biblioshiny R package

There were 177 publications from 107 sources. The period of the publication ranges from 2018 to 2022. The number of contributing authors is 335, of which 72 are sole-authored publications. There are 131 articles, 10 conference papers besides 23 book chapters, and one book on the topic. It is clear from Table 1 that the average number of citations per document is 4.395 and the annual growth rate of the publication is 116.57 %.




Source: Self-compiled from Biblioshiny R package

**Figure 2: Publications and Average Total Citations per Article**

The annual number of publications and their average citation are depicted in Figure 2. It shows that in 2018, there were just four papers published, but this number has increased to 18 in 2019. Since then the number of publications has grown at a faster rate and the maximum number of papers (n=88) were published in the year 2022. It may be because of the increasing prevalence and popularity of the topic of CBDC. Many countries have started taking steps to introduce their own CBDC which has increased the importance and scope in the area of CBDC research. Figure 2 also displays that the papers published in the year 2019 have been cited more frequently than those from other years as the Mean Total Citations per article (MeanTCPerArticle) is highest in this year.

### Most Influential Source

As mentioned above there are 107 sources including books and journals in the database retrieved. The performance of the top ten sources on the basis of h,g,m index and total citations has been depicted in Table 2.

**Table 2: Top Ten Journals**

| Name of Journal | H Index | G Index | M Index | TC | Documents |
|---|---|---|---|---|---|
| China Economic Journal | 5 | 5 | 1 | 75 | 5 |
| Finance: Theory and Practice | 3 | 4 | 0.6 | 17 | 4 |
| Journal of Economic Dynamics and Control | 3 | 7 | 1.5 | 62 | 8 |
| Journal of Monetary Economics | 3 | 4 | 0.6 | 77 | 4 |
| Journal of Payments Strategy and Systems | 3 | 4 | 0.5 | 30 | 17 |
| Research in International Business and Finance | 3 | 3 | 1.5 | 16 | 6 |
| Sustainability (Switzerland) | 3 | 4 | 0.75 | 32 | 4 |
| Finance Research Letters | 2 | 3 | 0.66 | 24 | 3 |
| International Journal of Central Banking | 2 | 2 | 0.5 | 16 | 2 |
| International Journal of Political Economy | 2 | 2 | 0.4 | 22 | 2 |

Source: Self-compiled from Biblioshiny R package

Table 2 shows that the China Economic Journal, with an h index of 5, is the most influential source for research on digital currencies issued by central banks. There has been a total of 5 publications, and these have been cited 75 times. It demonstrates that the China Economic Journal is widely esteemed and relied upon by researchers authoring papers on Central Bank Digital Currency. According to the g index the Journal of Economic Dynamics and Control, which has the highest index value of 7, is the most influential journal for Central Bank Digital Currency publications. Since the h and g indices indicate the importance of the source, they do not consider the period. Hence the m indices are utilised instead. The m index shows the h index divided by the number of years since the initial publication. It is evident from Table 2 that the Journal of Economic Dynamics and Control has the most significant m index, making it the most effective source for Central Bank Digital Currency publication.

Further, it can be observed from Table 2 that the Journal of Payments Strategy and Systems has the highest number of documents published, that is, 19 but has 30 citations. In contrast, the Journal of Monetary Economics has only 4 publications under it, yet it has the largest number of citations i.e 77.

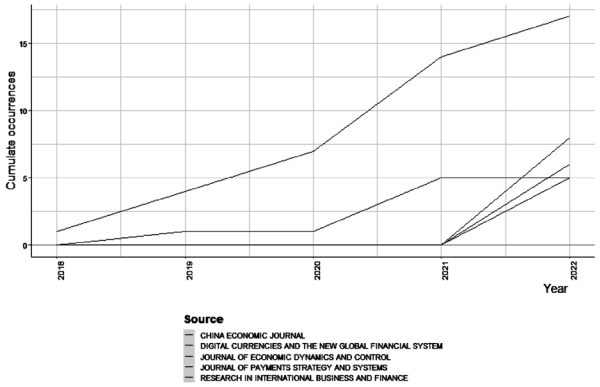



**Figure 3: Publication in Top 5 Journals in Different Periods**

Figure 3 displays the growth of the top 5 journals from 2018 to 2022. It demonstrates that the Journal of Payments Strategy and Systems and the China Economic Journal are the only sources for publishing articles on Central Bank Digital Currency until 2021. Journal of Payments Strategy and Systems

has been the highest-publishing journal in terms of the number of papers published (n=17). Few more journals such as Journal of Economic Dynamics and Controls, Research in International Business and Finance, and Digital Currencies and The New Global Financial System are becoming popular for publishing papers on CBDC since 2021.

### Top Contributing Authors

Since 2018 until now, the publications on Central Bank Digital Currency has been on the rise. According to the analysis, there were 23 papers published in 2020, 44 in 2021, and 88 in 2022. This demonstrates the authors' interest and belief that CBDC offers a wide range of potential study topics.

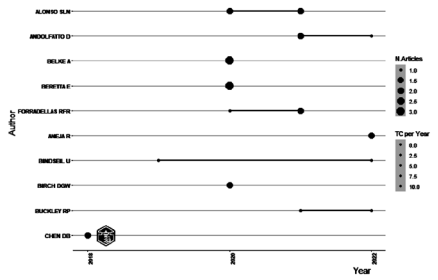



**Figure 4: Publications by the top 10 authors.**

As shown in Figure 4, circle denotes the quantity of articles published by an author i.e larger the circle more papers published. Similarly, the circle colour denotes the total number of citations per year on the author's publication. Author Chen published two research papers on CBDC in 2018 with a total of 6 citations. Alonso Sln published first in 2020 and published four papers on CBDC with 61 citations. Andolfatto D published 3 papers with 33 citations since 2021. Belke and Beretta both authored 3 research papers on CBDC with 16 citations. While Aneja R, published his first research in 2022 and published 2 papers with no citations yet.

To discuss the co-authorship out of a total of 335 authors who contributed to this topic of research, the authors with at least two papers on Central Bank Digital Currency were then chosen; 24 authors matched the criteria. However, there is no connection between these 24 authors. Only five authors make up the most related group.

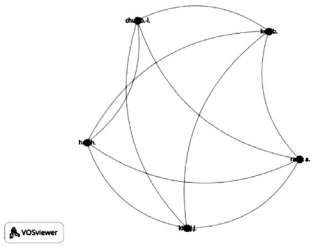



**Figure 5: Co-authorship of authors**

Figure 5 displays a co-authorship map. Han H., Chua B., Koo B., Radic A., and Kin J authors form a star connection between them. All five authors have collaborated together on two publications on CBDC. While the remaining CBDC authors have limited connections to one another, suggesting that they are less likely to collaborate on research related to CBDC. This may be because it is a very new field of research as countries have recently adopted or plan to implement digital money as a form of payment.

### Top Ten Influential Publications

Table 3 lists the top ten papers authored on share repurchase.

**Table 3: Top 10 Documents: Publication Source, Publication Year, and Citations**

| Title | Authors | Source | Year | Total Citations |
|---|---|---|---|---|
| On The Equivalence of Private And Public Money | Brunnermeier MK | Journal of Monetary Economics | 2019 | 46 |
| Theory Of Private Money and Economic Implications for Digital Currencies | Mikhaylov AY | Terra Economicus | 2021 | 44 |
| Assessing The Impact of Central Bank Digital Currency On Private Banks | Andolfatto D. | Economic Journal | 2021 | 33 |
| Central Bank Digital Currency: Central Banking For All? | Fernandez-Villaerde J, Sanches D and Schilling L;Uhlig H | Review of Economic Dynamics | 2021 | 30 |
| Cashless Society – The Future of Money or A Utopia? | Fabris N | Journal of Central Banking Theory and Practice | 2019 | 27 |
| The Macroeconomics of Central Bank Digital Currencies | Barrdear J and kumhof M | Journal of Economic Dynamics and Control | 2022 | 26 |
| Designing Central Bank Digital Currencies | Agur I, Ari A, Dell'ariccia G | Journal of Monetary Economics | 2022 | 23 |

| | | | | |
|---|---|---|---|---|
| Central Banks Digital Currency: Detection of Optimal Countries for The Implementation of A CBDC and The Implication for Payment Industry Open Innovation | Alonso SLN, Jorge-vazquez J and Forradellas | Journal of Open Innovation: Technology, Market, and Complexity | 2021 | 21 |
| A Global Perspective on Central Bank Digital Currency | Lee DKC, Yan l and Wang Y | China Economic Journal | 2021 | 20 |
| Reasons Fostering or Discouraging The Implementation of Central Bank-Backed Digital Currency: A Review | Alonso SLN, Fernandez Mae, Bas Ds and Kaczmarek J | Economies | 2020 | 19 |

Source: Self-compiled from Biblioshiny R package

The paper "On The Equivalence of Private and Public Money" by Brunnermeier MK published in 2019 in the Journal of Monetary Economics has the highest number of 46 citations shown in Table 3. The paper "Theory of Private Money and Economic Implications for Digital Currencies" by Mikhaylov AY published in 2021 in Terra Economicus has the second highest number of citations which is 44. The paper "Assessing The Impact of Central Bank Digital Currency on The Private Banks" published in the Economic Journal in 2021 by Andolfatto D, has the third highest number of citations.

Amongst the top 10 papers, two papers were written by the same author Alonso SLN while collaborating with other authors in 2020 and 2021 respectively with a total citation of 21 and 19 both published in the high-end Journal of Open Innovation: Technology, Market, and Complexity and Economies. The authors investigated CBDC in conjunction with cryptocurrency, digital payments, and the monetary policies of the government.

### Top Countries

The number of citations that various nations received in the Central Bank Digital Currency publications has also been depicted in Figure 6.

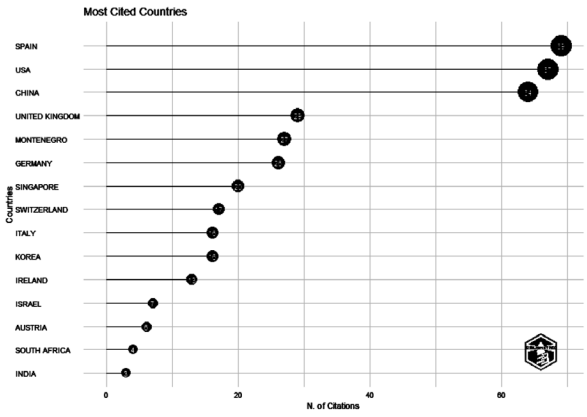



**Figure 6: Top 15 Countries with the Highest number of Citations**

According to the number of citations on Central Bank Digital Currency papers published by different countries, Spain has the maximum number of citations, i.e., 69, followed by the USA and China with 67 and 64 citations respectively. India has the minimum number of citations (n=3). Using "country" as the analytical unit, the study investigated the worldwide distribution of CBDC publications to determine the connection between countries. The minimum number of documents published by a country was set at 2, and out of the 62 countries that took part in the publication of the Central Bank Digital Currency papers, 34 met the minimum requirement.

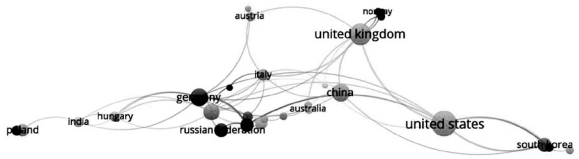



**Figure 7: Co-authorship of Countries**

The network map in Figure 7 shows 30 countries correlated in the literature on Central Bank Digital Currency. Seven clusters are formed with 61 links between countries and 75 total link strengths. According to the number of publications in collaboration by each country on CBDC research, the United States has the maximum number of publications, i.e., 30, followed by the United Kingdom with 22 documents, China with 15 documents, Germany with 14 publications, and Korea with 9 publications. According to total link strength, the United States has the maximum total link strength of 15. Even though China has published more documents, Germany has had more successful collaborations with other countries, as evidenced by Germany's total link strength of 12, compared to China's total link strength of 7.

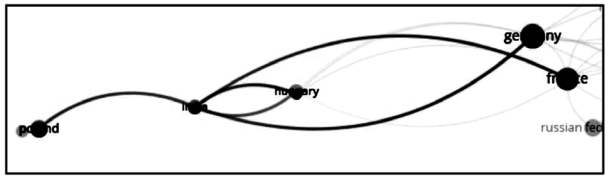



**Figure 8: Indian Collaboration**

As depicted in Figure 8, India has published 5 documents in collaboration with 4 other countries on the topic of Central Bank Digital Currency. These are Germany, France, Hungary, and Poland. India has first publication in 2021. India needs to emphasise this field of research in the future by collaborating with other nations to improve this number.

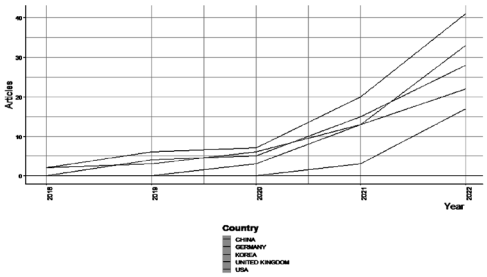



**Figure 9: Publications by Various Countries in Different Periods**

Figure 9 displays the number of papers published by various nations over time. The pink and blue lines in the figure indicate that the USA and the United Kingdom have experienced unmatched growth in the publication of studies on CBDC from 2018 to the present. China and Germany have seen the most significant rise in publications, yet it still falls short of the United States and UK.

### Analysis of Keywords Topics on CBDC Research

Table 4 displays the frequency with which the top 10 keywords have been used in the published literature. The central bank is one of the most used keywords. Keywords like central bank digital currency, blockchain, electronic money, currency, banking, and cryptocurrency all appear frequently in CBDC-related scholarly articles.

**Table 4: Top 10 Keywords**

| Key Words | Occurrences |
|---|---|
| central bank | 20 |
| electronic money | 10 |
| Currency | 6 |
| Blockchain | 5 |
| central bank digital currency | 5 |
| Banking | 3 |
| monetary policies | 3 |
| Cryptocurrency | 2 |
| Finance | 2 |
| world bank | 2 |

The occurrence of keywords has been further discussed with the help of the word cloud. A word cloud is a graphical representation of the most frequently used words in a given text. The frequency with which a term appears in the text being analysed determines the size of the term in the final image. The use of word clouds is on the rise as a quick method of pinpointing a text's key points.


**Figure 10: Word Cloud**

Keywords with larger font sizes in these word clouds indicate higher-priority research topics in the study of CBDC. The most important keyword is central bank then electronic money, central bank digital currency, currency, and blockchain. Other important keywords focus on the concept of CBDC that can be used in research, such as monetary policies, crypto currency, world bank, finance, and application scenario. In order to examine the co-occurrence of keywords, a bibliometric analysis was performed on the keywords identified in CBDC documents within the data set. VOSviewer network map has been used to detect the keywords used in various publications.

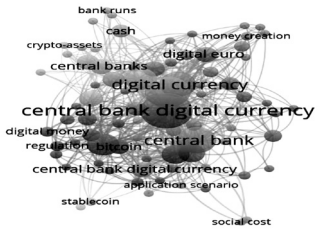



**Figure 11: Co-occurrence of Keywords**

The size of the nodes in the co-occurrence map indicates how frequently the word has appeared which aids in identifying the most commonly used words. By calculating the distance between the two phrases on the map, the frequency of co-occurrences of the two terms can be estimated. The distance between two nodes decreases as the frequency of two words occurring together increases. The keywords are filtered according to the criterion that there must be at least two occurrences of each keyword. 83 out

of 570 keywords fall within the acceptable range. These 83 keywords are grouped into 11 clusters as presented in Figure 11. It can be observed from the figure that central bank digital currency is the most popular keyword used and co-occurred word with 57 links and 138 total link strength with words like cryptocurrency, central bank, and monetary policy. The second most frequently used keyword is CBDC with 52 links and total link strength of 120. Other important keywords that focus on CBDC are cryptocurrency, payment systems, fintech, and monetary policy, etc.

## CONCLUSIONS

The trend toward CBDCs is accelerating, pushed by the brilliance of central banks and the role of CBDCs in carrying out macroeconomic decisions is growing. By analysing the previous research, the study discovers that during the past few years, there has been significant growth in the number of scholarly articles that are devoted to the subject. CBDC is becoming more significant, but it is still a relatively untapped area. Significant attempts are being made by researchers to examine the connections between CBDCs and international trade. For the purpose of exhibiting publishing trends in central bank digital currencies, bibliometric analysis has been conducted on 177 articles that are collected from the SCOPUS database. This research examines the evolution of this field of study, identifies key participants in its evolution, and provides a synopsis of their work and their relationships. However, there is much more to explore about CBDC and this kind of analysis ought to be carried out on a consistent basis in order to keep a close eye on the progression of this research field.

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