

Volume 1 • Issue 1
March 2023



mjmrp.mdim.ac.in



MDIM JOURNAL OF MANAGEMENT REVIEW AND PRACTICE



MDIM Journal of Management Review and Practice is published biannually in March and September by Management Development Institute Murshidabad (MDIM).

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Printed and published by Registrar MDIM on behalf of Management Development Institute Murshidabad, Sakim-Katnai, Kulori, P.O. - Uttar Ramna, P.S. - Raghunathganj, Dist. Murshidabad, West Bengal, India. Printed at Sai Printo Pack Pvt Ltd, A 102/4 Phase II, Okhla Industrial Area, New Delhi, Delhi 110020.

Editor-in-Chief: Dr. Souvik Banerjee

About the Journal

MDIM Journal of Management Review and Practice is an outcome of collaboration between Management Development Institute Murshidabad and Spectrum Journals at SAGE Publications. The journal aims to create and advance knowledge in the field of management sciences and its allied disciplines. High quality research papers, case studies, opinion pieces and book reviews are published in *MDIM Journal of Management Review and Practice*.

Through thought leadership, the journal fosters a knowledge ecosystem that enriches the existing body of knowledge.

MDIM Journal of Management Review and Practice is published twice a year, in March and September. The journal publishes research works that are thought provoking. The most recent developments in the following fields have been covered in recent years. Thought leaders, researchers, academicians as well as corporate professionals publish their scholarly work through this outlet.

The indicative list of areas on which research work is published in this journal are as follows:

- General Management
- Finance & Accounting
- Economics
- Information Technology
- Marketing
- Human Resource Management
- Ethics
- Organization Behaviour
- Operation and Strategic Management
- Public Policies and Governance

The journal has provided a forum for debate and a platform for exchange of ideas from a diverse range of scholarly perspectives in order to promote research with quantitative, qualitative as well theoretical underpinnings on issues confronting the world as a whole in general and business world in particular.

The main features (paper types) of the journal are as follows:

- Applied and Normative Research
- Review Articles
- Case Studies
- Book Reviews

Aims and Scope

MDIM Journal of Management Review and Practice, a humble initiative of Management Development Institute Murshidabad, strives and fosters to propel research in the arena of business and management sciences by providing evidence-based research papers of highest quality for academicians, researchers, managers and policy makers. The journal endeavors to create influence on corporate and academia think tanks. It aspires to provide a platform for discussions and cross-pollinations of ideas across wide spectrum of scholarly perspectives to garner theoretical, empirical and comparative research on ongoing and probable problems in the business world.

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Editorial

MDIM Journal of Management
Review and Practice
1(1) 7, 2023
© The Author(s) 2023
DOI: 10.1177/mjmrp.221147985
mjmrp.mdim.ac.in



It gives us immense pleasure to introduce, *MDIM Journal of Management Review and Practice*, the management journal of Management Development Institute Murshidabad (MDIM).

This auspicious beginning should lead us to momentous changes in the days to come. The journal should create new paradigms of knowledge in the domains of management and allied disciplines.

MDIM, since its inception in 2014, has made great strides in quality education delivery, and the institute is carrying forward the legacy of MDI brand.

This first issue of the journal has research papers from the domain of performance of green businesses in the Indian stock market, online learning experience of post-graduate students and their technology acumen, aspects of knowledge society and information technology in the 21st century as well as inappropriate sales practices in the financial services industry.

We hope that this issue will provide valuable insights to the researcher community.

Souvik Banerjee
Editor

The 2008 Financial Crisis: Through the Lens of Phenomenology, Narratology, Metaphorology Methodology

MDIM Journal of Management
Review and Practice
1(1) 8–18, 2023
© The Author(s) 2023
DOI: 10.1177/mjmrp.221147117
mjmrp.mdim.ac.in



Labanya Prakash Jena^{1,2}

Abstract

Modern financial theories often fail to predict black swan events in the financial market because these financial theories are built on market participants' typical behaviours in the last few decades. These theories have not captured the behaviour of market participants in black swan events. In the context of this study, qualitative research such as phenomenology, narratology and metaphorology can be deployed to study randomly from the perspective of uncertainty, risk and chaotic behaviour. These research methodologies remove the numerical assumptions used by the quantitative financial model but lighten the participants' real experience, who witnessed the crisis very carefully. Thereby, the behaviour of market participants can be captured and examined. The employment of these qualitative research methodologies, along with the pure financial theories, will be more efficient to predict these events, which allows stakeholders to take necessary steps to avert this kind of crisis.

Keywords

finance, black swan, metaphorology, phenomenology, narratology

Introduction

'Black swan', as a term pioneered by John Stuart Mill, the 21st-century philosopher, to test falsification, who later expanded the term in different aspects

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of life. Taleb (2007) made the term famous in the financial market by using this concept in his seminal book *The Black Swan*. According to him, 'black swan' is a concept that is related to uncertainty, unpredictable and highly impactful. He also linked it with investment in the financial market and opined that it is difficult to predict such events in the financial market. It is better for investors to adjust black swans in investment decision-making. Green (2011) further defined black swans as 'unknown unknowns', which can run havoc even if there is a plan to mitigate and control them.

The financial crisis of 2008 is a 'black swan' event as its impact was catastrophic, uncertain, risky and highly unpredictable. The crisis resulted in a crash in the stock market across the world, caused massive financial losses, homelessness across the United States. Economists recognize the 2008 financial crisis as the second worst economic crisis since the Great Depression of 1929 (Foster & Magdoff, 2009). The banking crisis, which followed the US housing market crisis, was so catastrophic that outsiders started doubting the banking system (Calomiris & Haber, 2014). The impact of the event was such that the soundness of modern economics was questioned (Carrick-Hagenbarth & Epstein, 2012). Krugman (2012) further accentuated that the financial crisis is an indication of the 'failures of the economics profession'.

There were many research papers by scholars on the crisis, mostly on the origins of the crisis. Scholars blamed the low-interest policy followed by central banks that led to increase in asset prices (Ahrend et al., 2008), resulting in a surge in the housing demand (Ahearne et al., 2005) and increased credit supply in the economic system (Borio & Zhu, 2008). Maintaining low interest rate for a long time and excessive credit supply led to the mis-allocation of capital. The increase in asset price was giving a false signal on the right prices of the securities. Many emerging markets, China, in particular, due to its large exchange reserve, were buying the US treasury securities heavily, which resulted in a lower yield of the US treasury securities. The investors, who were earlier investing in treasury securities, moved their capital to high yield but high risky securitized bonds (Bertaut et al., 2012), which was assumed to be safe during that time. Some scholars also blamed the excess risk culture (Rajan, 2011), flawed incentive mechanisms in the financial system (Financial Services Authority, 2009), financial innovation (Kirkpatrick, 2009), moral hazard (Leaver, 2015), asymmetric information (Bhattacharya et al., 2011) and lax in regulation (Schoen, 2017).

The mainstream economic theories are facing the challenges of understanding and predicting these kinds of economic events (Krugman, 2009). Scholars have examined some of the modern finance theories, which predict the financial crisis ex-ante. Prominent economists among them are Fisher (1932), Kindleberger (1978) and Minsky (1977), whose work on the relationship between credit cycle and financial crisis gives a better understanding of financial crisis. However, it is challenging to predict the time and scale of the crisis.

Modern financial theories such as Capital Asset Pricing Model (CAPM), Value-at-Risk (VaR) and the Black-Scholes fail to predict these economic events because these theories are built on the typical behaviours of market participants in the last one or two decades. These models have not captured the behaviour of

market participants in black swan events. Hence, it is tough to predict and prevent these events in the financial market.

Phenomenology

The assumption of the experience of persons is not as reliable as objective data; hence, researchers have rarely used the human experience as a research methodology to study an event (Neubauer et al., 2019). However, the experience of persons can be a vital source of information for scholars seeking a detailed study of a subject, which warrants discovery and understanding. Phenomenology, a research method, allows the researcher to explore the perspectives of the persons who experienced the phenomenon, which helps in understanding the phenomenon. Phenomenology also helps the researcher to study both ordinary, usual and extraordinary events (Jackson et al., 2018). This methodology also aids in exploring the rich experiences of the event (Finlay, 2008) with a focus on the individual's experiences of the event (Kirillova, 2018).

There are various kinds of approaches to phenomenology, and each method gives answers to 'what and what kind of experience' and how is the experience (Neubauer et al., 2019). Padilla-Díaz (2015) has split phenomenology into three categories, as discussed in Table 1.

I have chosen a descriptive methodology to study the event since this methodology is suited to explore a lived experience. This approach is also rigorous and scientific (Giorgi, 1997). The life experiences of the participants help the researchers to study the event through an understanding of the human experience (Dahlberg, 2008).

Phenomenology to Study the Randomness of the Event

There is no standardized meaning of randomness, given it is a new subject. Beltrami (1999) and Nickerson (2002) opine that it is challenging to define randomness theoretically since random sources generate outputs that do not seem to be random while *unrandom* sources create outputs that appear to be random (Zhao et al., 2014). A concept is considered to be complicated and multi-layered as interpreted by various researchers (Batanero et al., 1998; Saldanha & Liu, 2014).

Researchers have used different methodologies to study randomness, and there is a considerable variation among the methods (Zhao et al., 2014). Statistical and mathematical models have been used to study randomness such as the Bayesian approach, calculus of probability and Stochastic models. Wagenaar (1972) examined all these methodologies and concluded that a theory could not be built up by combining various methods. In the context of this study, phenomenology can be deployed to study randomly from the perspective of uncertainty, risk and chaotic behaviour.

Table 1. Phenomenology Approaches.

Approaches	Description
Hermeneutical or descriptive	• It describes the experiences of the participants of the phenomenon under investigation. • Defines and classifies the various types of mental phenomena. • No filtration of experience of the participants • A bias-free approach to study the phenomenon
Transcendental or eidetic phenomenology	• The 'essence' of the consciousness perceived by the individual experiencing the phenomenon under investigation is analysed. • Blend the essential elements of the participants' experience with the researcher's interpretation of the event • Not bias free
'Egological', constitutional or genetic phenomenology	• Distinct from the other two approaches: The participants are treated as a conscious entity during the investigation. • Stives to understand reasons for various types of mental phenomena • Investigates the history of this process of the constitution: Focus on earlier experiences which can have a bearing on current experiences.

Source: The author's analysis based on Padilla-Diaz (2015), Kortooms (2002) and Smith (2018).

Table 2. Narration of 2008 Financial Crisis.

Timeline	Stories / Event
Apr 2007	'Crisis Looms in Market for Mortgages'; 'New Century Files for Chapter 11 Bankruptcy'
Aug 2007	'BNP Freezed \$2.2 Billion of Funds Over Subprime'
Sept 2007	'Northern Rock: The First Run on a Bank in the U.K.'
Mar 2008	'Bear Stearns Lives On Inside JPMorgan'
July 2008	'Treasury Acts to Shore Up Fannie Mae and Freddie Mac'
September 2008	'Lehman Brothers Collapsed, Filed for Bankruptcy'
Dec 2008 – Jan 2009	'Global Economies Entered into Recession'
January 2009	'Banks Ask for Crisis Funds for Eastern Europe'

Source: Compiled by the author from various newspapers.

Table 3. Application of Root Metaphorology to Study Financial Crisis 2008.

Prominent Theme	Predominant Metaphor	Sub-metaphors
Credit market	• Liquidity • Housing market • Consumer credit market	• Liquidity is king • Evaporation of liquidity • Liquidity crunch • Counterparty risk • Commercial paper • Lower confidence among the lenders • Fire sale of the mortgage bonds • The collapse of the housing market • Subprime mortgage • Maturity transformation
Role of central bank	• Monetary Tools • Quantitative easing • Central bank credibility • Interest rate	• Failure of traditional monetary tools • Lender of last resort • Unlimited central bank support • Mitigating catastrophic and tail risk • Transcend the banking law
Robust financial system	• Regulation • Financial stability • Nationalization	• Financial leverage • Short-term funding • Shadow banking • Complex financial products • Moral hazard • Public capital to rescue banks • Nationalization of the financial sector • Laxity in financial regulation • Finance is inherently fragile

Source: The author's analysis based on various newspaper reports.

Application of Phenomenology to Study Black Swan in Financial Market

The financial market participants and real economic agents have different and ambiguous attitudes during economic turmoil. The financial crisis of 2008 occurred due to the actions of a large number of financial and market participants. The participants did not trusting each other during the financial crisis: Trust among financial market participants is a condition for the smooth operation of markets. The absence of trust leads to uncertainty, making the financial assets risky and causing chaotic behaviour among the participants. The element of trust emanates from human behaviour, and it can be studied through close observation and interaction with humans, particularly during the chaotic event. The conventional quantitative models failed to understand the behaviours of market participants during the financial market turmoil.

Through phenomenology, the behaviour of market participants can be captured and examined. Phenomenology removes the numerical assumptions used by the quantitative financial model (do not work in the chaotic event) but lightens the real experience of the participants, who witnessed the crisis very carefully. Phenomenology would also help in understating the behaviours of the participants' actions and reactions (Courtenay et al., 2000); this could lead to having a deeper understanding of a complex phenomenon (Wilson, 2011).

Narratology

Narratives are 'the reflective product of looking back and making sense of stories constructed to make sense of life' (Flory & Iglesias, 2010). There is a difference between stories and narratives. The narrative comes after the story. The story is an account of incidents or events, but narrative comes after and adds 'plot' and 'coherence' to the story line (Boje, 2011). Both offer invaluable insights and enable addressing a wide range of organizational phenomena (Pentland & Feldman, 2007). Research designs using story or narrative analysis can provide better critical insights into individual mindsets than other research methods that are based on quantitative techniques (Flory & Iglesias, 2010; Gabriel, 1995; Polkinghorne, 2007).

Application of Narratology to Study Black Swan in Financial Market

The narrative research methodology is often used in social science but not considered a grounded theory (McAlpine, 2016). Scholars think that narrative research is not a robust approach in economics, hence not used by them to study economic events (Shiller, 2017). However, the narration of stories affects the decision-making of economic events, and thereby economic outcomes. Examining popular stories, particularly related to human emotions and desires, can help understand the economic fluctuation. In the context of the financial crisis, narration can be best described as bad stories, appeared in various media, which shook the confidence of economic agents in 2008 and after that. The low confidence level removed the animal spirits of economic agents; i.e., financial market participants that resulted in an economic/financial crisis (Table 2).

Metaphorology

A metaphor is a figure of speech that makes an implicit, implied or hidden comparison between two things that have nothing in common but have some common traits for comparison. According to Lakoff and Johnson (1980), 'The essence of metaphor is understanding and experiencing one thing in terms of another'. Metaphorology method, used in qualitative research can help researchers

in conducting research more effectively. In contrast to other qualitative research methodologies, metaphorology encourages scholars to think and act in novel ways (Morgan, 1998), extending the horizon of the study, giving new insights and opening doors to explore new possibilities.

Application of Metaphorology to Study Black Swan in Financial Market

The term metaphor is also used to describe several basic or general aspects of experience and cognition. Cornelissen (2004) argued that metaphors reveal creative and novel correlations of two or more concepts enabling researchers to make ‘semantic leaps’ in our understanding of reality. Schön (1979) advocates,

The essential difficulties in social policy have more to do with problem setting than with problem-solving, more to do with ways in which we frame the purposes to be achieved than with the selection of optimal means for achieving them ... the framing of problems often depends upon metaphors underlying the stories which generate problem setting and set the direction for problem-solving.

Hence, the employment of metaphors can help in the framing of the issues. Metaphors can be used to frame issues concerning the financial market to study black swan events in the financial market.

I have used root metaphor—a component of metaphorology—which is the underlying worldview that shapes an individual’s understanding of a situation, including a black swan event in the financial market (Table 3). These root metaphors could then be used to derive first-order metaphors and second-order metaphors, and so on. The systematic use of root metaphors enables inferring conceptual knowledge based on the analysis of systematic patterns of linguistic structures such as metaphorical mappings (Gibbs, 1998). I have derived metaphors from interviews given by three important persons in the financial crisis. They are Timothy Geithner, President of the New York Fed, who became the Treasury Secretary during the financial crisis; Ben Bernanke, Federal Reserve chairman; and Henry Paulson, Treasury Secretary before Timothy Geithner.

Comparative Analysis of the Methodologies

I have compared and contrasted these methodologies: phenomenology, randomness, black swan event, narratology and metaphorology. I have argued which methodology can best interpret and capture the chaotic market phenomenon and the unit of analysis. Table 4 provides a summary of the comparative study of these three methodologies.

Narratology methodology can best interpret, study, capture and examine the chaotic market phenomenon. Any chaotic aspect, like the 2008 financial crisis, is

Table 4. Comparative Analysis of Methodologies.

Methodologies	Description	Merits	Limitation
Phenomenology	Understating the phenomenon from the people who have closely associated with the event.	Allows the researcher to explore the rich experience of the persons related to the event; helps to study both ordinary, usual and extraordinary events.	Subjective information Qualitative information may not be useful for practice.
Narratology	Narration can be best described as stories, appeared in various media, which influence people's behaviour.	Through narration, one can understand and influence human behaviour, which could help in designing policy and regulatory interventions to prevent a financial crisis.	Subjective in nature Individual interpretation of researchers Needs study of large participants to understand the behavioural pattern
Metaphorology	A qualitative methodology that encourages research scholars to think and act in novel ways.	Gives new insights and open doors to explore new possibilities.	Subjective interpretation of the researcher

Source: The author's analysis based on various newspaper reports.

not only created by rational economic decision-making but also by the narration of the events in the media. The significant advantage of narratology over other research methodologies is the application of a mathematical model, which can be useful for practical use (Shiller, 2017). Data science, which captures stories, can be obtained through narratology methodology and mathematically modelled to understand the behaviour of the population and also suggest efficient interventions to change people's behaviour. The past financial crisis can be studied and examined through narratology. The lessons learned, policy measures that are useful and efficient can be captured through narratology; these policy actions could be deployed to avert a financial crisis.

Conclusion and Way Forward

Modern financial theories often fail to predict these economic events because these theories are built on the typical behaviours of market participants in the last one or two decades. These models have not captured the behaviour of market participants in the black swan events. Qualitative research methodologies such as

phenomenology, narratology and metaphorology methodologies can be deployed to study random events from the perspective of uncertainty, risk and chaotic behaviour. Through these methodologies, the behaviour of market participants can be captured and examined. There is a vast potential for further research on this subject as the modern financial theories have limitations to predict black swan events in the financial system.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author received no financial support for the research, authorship and/or publication of this article.

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Factors Affecting Digital Acumen of Postgraduate Business Study Students Attending Online Learning: A Study in the National Capital Region (NCR)

MDIM Journal of Management
Review and Practice
1(1) 19–42, 2023
© The Author(s) 2023
DOI: 10.1177/mjmrp.221145272
mjmrp.mdim.ac.in



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Abstract

The global COVID-19 pandemic had created an unforeseen situation across the country affecting normal academics in schools, academic institutions and universities. These had compelled policymakers, academic think tanks, institutional heads, faculty members and others to quickly adopt online mode of teaching and learning in order to safeguard the well-being of students, faculty, staff and their family members from the spread of the virus. However, adopting to the online mode of teaching and learning was not an easy affair for either the student or teaching community. In spite of all the adversities and impending challenges, students had to adopt with the online mode of learning for which they needed to harness and sharpen their digital acumen and technical know-how. Taking this perspective into consideration, an attempt has been made in the present study to have an understanding of what was meant by digital acumen for students studying postgraduate business studies in the institutions located in and around the National Capital Region (NCR) of Delhi and explore the factors influencing the same. For this purpose, the research used a sequential mixed method research design whereby, based on the existing literature and research gaps the first (qualitative) phase, made an attempt to explore the narratives of institutional heads regarding what was meant by digital acumen for postgraduate business study students and what factors influenced the same. The qualitative

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study led to the identification of three variables, namely support from teachers, support from peers and technical knowledge. During the subsequent quantitative phase of the research, the study explored the influence of these variables on the digital acumen of students based on an online survey among 335 students from the NCR. Data analysis indicates that technical knowledge was the most important mediator of digital acumen among the students. Support from teachers was an important predictor influencing both technical knowledge and support from peers. The variable support from peers has significant influence on technical knowledge thereby establishing the influence on digital acumen of students.

Keywords

digital acumen, online learning, COVID-19, postgraduate business study students

Introduction

Academic institutions and universities across India went through an unprecedented situation due to the global COVID-19 pandemic, which brought normal classroom teaching and learning to a standstill for almost an entire year. In order to look after the health and safety issues of students and faculty members, academic institutions across the country adopted the online mode of teaching–learning. Initially, with limited resources and lack of prior training and exposure, it was difficult for many students and even faculty members to cope with the challenges of online teaching and learning which needed digital acumen and know-how. As most of the teaching and learning activities were done using online platforms, students who did not have prior technical knowledge and digital acumen had to learn, adjust and develop essential practical skill sets to effectively attend their routine classes and perform their academic activities using the online mode.

Taking this as an issue of concern for many students, an attempt has been made in the present research to explore what is meant by digital acumen for students and what factors influenced their digital acumen. The study is conducted keeping in mind the postgraduate business study students from National Capital Region (NCR).

Review of Literature

The relevance and importance of digital acumen, particularly in terms of digital and information literacy, in education had been discussed by authors like Sunarjo (2021). Authors such as Dhawan (2020) and Mishra et al. (2020) highlighted the imminent challenges faced by students during online learning during the COVID-19. Bordoloi et al. (2021) conducted a study in the Indian context involving students during the COVID-19 and indicated the importance of blended learning as an emerging reality in the landscape of today's academics. Other researchers like Gautam and Gautam (2021) found the importance of infrastructure,

student–teacher interaction, infrastructure and availability of technology as antecedent factors influencing the effectiveness of online teaching among students in Nepal. Yassin et al. (2021) explored the psychological impact of the global pandemic among students studying in Malaysian universities. In this regard, Tan (2021) explored the influence of the global pandemic on the student learning and academic performance perspectives. Similarly, Sarea et al. (2021) highlighted the issues affecting digitalized accounting education in the context of Middle East countries. On the other hand, some other authors (Chandra, 2020; George & Thomas, 2020) discussed the emotional and stress- and anxiety-related issues and coping strategies used by students to cope up with the challenges of online learning. Zia (2020) discussed the importance of factors such as student training, technology expertise, academic curriculum, motivation and attitude (Ismail, 2021) on the effectiveness of online learning perspectives among students. A similar study conducted by Tejedor et al. (2020) indicated that teaching methodology, interaction with students and digital skills were essential for online teaching and learning in European countries such as Spain and Italy. Most of these studies, however, had not made any insights on exploring the factors influencing the digital acumen of students which is the agenda of this research and justifies the existence of a major research gap.

The growing importance of digital literacy among students has been discussed in a recent study conducted by Sunarjo (2021), who justified that digital literacy among the student community varied from country to country. Öncül (2020) indicated that first semester university students showed lack of essential digital skill sets and needed institutional help from faculty members for facilitating the same. Other authors such as Cetindamar and Abedin (2020) discussed the relevance of digital abilities of people in the organizational context. Although recent literature identified from studies conducted by Sarea et al. (2021) and Yassin et al. (2021) emphasized the importance of digital abilities, few in-depth insights were available regarding what was meant by digital acumen for students using online mode of learning during the COVID-19 which left the scope for the present study to bring about in-depth insights on this unexplored perspective.

The study conducted by Tuamsuk and Subramaniam (2017) explored various factors that influenced the digital literacy of students in the context of Thailand. The authors indicated that infrastructure, technical assistance, and academic and collaborative support were essential for influencing digital skill sets among students. In this context, a very recent study conducted by Gautam and Gautam (2021) explored factors such as IT infrastructure, teacher support and student support as essential factors influencing the adaptation of online teaching in higher education during the global pandemic.

Rizvi and Nabi (2021) highlighted the importance of relevant technical and information technology infrastructure in institutions for facilitating online teaching and learning. The study also discussed the challenges and issues pertaining to home environment which the authors indicated to have affected the learning effectiveness in students. Gautam and Gautam (2021) argued that infrastructure played an important role in the transition of higher education from offline to online mode during the COVID-19 lockdown. Previously, Muirhead

(2000) had also justified the relevance of digital infrastructure for facilitating online education in the Canadian context. Based on these understandings, it is clear that technological infrastructure played an important role in the effectiveness of online teaching and learning, but whether it contributed to digital acumen was not explored in the context of the COVID-19 perspective.

The study conducted by Leino Lindell (2020) and, off late, Rizvi and Nabi (2021), indicated the importance of support from institutions by teachers for facilitating digitalization of teaching. Earlier, Gilbert (2018) discussed the importance of support and networking with their teachers for their academic performance. In a similar context, Leifler (2020) pointed out that teachers played an important role in facilitating inclusive learning to students. Similar arguments had earlier been justified by several other authors (e.g., Tamm et al., 2019; Timperley *et al.*, 2007). Very recently, a study (Kulal & Nayak, 2020) conducted in the state of Karnataka, India, showed that students were satisfied with the support from their teachers for their online classes. Hence, it is understood that most of these studies have either indicated the importance of, or satisfaction with, the support of teachers for digital teaching and learning. None of these studies have distinctively revealed whether support from teachers contributed towards digital acumen of the students, which leaves a potential research gap for further exploration.

The study conducted by Fisher and Baird (2005) had discussed the importance of collaborative learning during web-based or online courses. Similarly, in another research conducted by Karunanayaka et al. (2016), it was shown that peer-based support had an important role to play for online learning. Earlier, Akyol et al. (2010), Harris and Sandor (2007) and Baran and Correia (2009) presented a similar perspective on the same issue. These studies have not been conducted to reveal whether support from peers contributed towards the development of digital acumen in students, leaving a research gap for further insights on the same.

The research conducted by Muirhead (2000) discussed the importance of technical support for effective online education at school level. Kulal and Nayak (2020) mentioned in their study that technical issues were important for the effectiveness of online studies among students. Another recent study conducted by Sarker et al. (2019) revealed the importance of e-learning technologies for effective online teaching and learning of students in Bangladesh. Authors like Dhawan (2020) also discussed the relevance of technical know-how for facilitating digital learning among students. Similarly, the study conducted by Chen et al. (2021) clearly indicates that student satisfaction towards online teaching and learning was correlated with content coverage and know-how of online technologies. These evidences clearly indicate that most researches had highlighted the importance of technical knowledge in the effectiveness of online learning of students, which indicates that whether technical knowledge contributed towards digital acumen was not thoroughly explained by any of these studies.

The review of literature had provided a partial picture of what was meant by digital acumen and what factors contributed to the same. Taking the context of postgraduate management students attending online mode of teaching during COVID-19, hardly any research data is found which leaves the present study to

Table 1. Research Gaps, Research Objectives.

Research Gaps	Research Objectives
There is a lack of understanding of what it meant by digital acumen for postgraduate business study students using online learning.	To have an understanding of what was meant by digital acumen for postgraduate business study students using online learning.
There is a lack of understanding of the factors influencing the digital acumen of postgraduate business students using online learning.	To explore and understand the role of factors influencing the digital acumen of postgraduate business students using online learning.

Source: The author.

highlight the research objectives based on the research gaps identified from the review of literature (Table 1).

Based on the research gaps and objectives mentioned in Table 1, the following research questions were raised:

RQ1. What was meant by digital acumen for postgraduate business study students using online learning?

RQ2. What are the factors influencing the digital acumen of postgraduate business students using online learning?

Research Methods

The research used a sequential mixed methodology design of which the first part was qualitative in nature and second part quantitative. The first part of the study, which was qualitative in nature, was aimed to collect the narratives of 10 heads of institutions/departments from reputed postgraduate business study institutions located in and around the NCR. The narratives were collected from the respondents using purposive sampling method with an objective to have an in-depth understanding of what was meant by digital acumen for the postgraduate business students attending online mode of learning and what kind of social phenomena underlined the causal factors which influenced their digital acumen. The narratives collected during this part of the research were analysed using N-Vivo 10, which led to the identification of sub-themes leading to the presentation of broader themes describing the social phenomenon behind the factors influencing digital acumen of postgraduate business students.

The second part of the study, which was qualitative in nature, used the research instrument developed from the sub-themes and broad themes identified from the qualitative part of the research to collect data from 335 postgraduate business students located in and around the NCR attending online mode of learning at their institutions. The names and details of the students were chosen based on prior data shared by personal network. Each student name was systematically coded, and the

Table 2. Identification of Trigger and Probing Questions from the Research Gap and Research Questions Emerging from the Review of Literature.

S. No.	Research Gap	Research Question(s)	Trigger Questions	Probing Questions
1	There is a lack of understanding of what it meant by digital acumen for postgraduate business study students using online learning.	RQ1. What was meant by digital acumen for postgraduate business study students using online learning?	What comes to your mind when you mean digital acumen for postgraduate business study students using online learning?	Are postgraduate business students using online mode of learning need to apply digital know-how? Are postgraduate business students needed to have in-depth understanding of digital technologies?
2	There is a lack of understanding of the factors influencing the digital acumen of postgraduate business students using online learning.	RQ2. What are the factors influencing the digital acumen of postgraduate business students using online learning?	What according to you are the variables that have influenced the digital acumen of postgraduate business students during their online learning?	Elaborate the factors portrayed by you influencing the digital acumen of postgraduate business study students.

Source: The author.

samples were drawn randomly from the list of coded students. Data collected from the online survey using Google Forms were analysed using SPSS Statistics 20.0, AMOS 20.0 and Gaskin's Statistical Tool Package Excel spreadsheet.

Part I: Qualitative Phase

The research gaps and research questions identified from the review of literature (Table 1) were used to develop trigger and probing questions (Table 2) for facilitating the qualitative inquiry (Part 1 of the study). The narratives were recorded and analysed simultaneously using Grounded Theory approach which helped the researcher have the most in-depth and saturated understanding of the social phenomena studied by facilitating an on-going interaction with the head of the institutions of postgraduate business study colleges located in the NCR.

Qualitative Data Analysis Using N-Vivo 10 Application

The grounded theory approach helped the researcher to develop narrative transcripts that were fed into NVivo 10 software for qualitative data analysis. The

Table 3. Sub-Themes and Broad Themes Identified from the Narrative Transcripts Using N-Vivo 10 Application.

Sub-themes Identified from Narrative transcripts	Coverage from Narrative Transcripts (%)	Broad Theme Identified	Broad Theme Category Coverage of Source (%)
Problem solving	21	Support from teacher (ST)	84
E-learning resources	17		
Individual guidance	19		
Information sharing	15		
Encouragement	12		
Problem solving	20	Support from peers (SP)	86
E-learning resource sharing	21		
Collaboration	15		
Information sharing	16		
Encouragement	14		
IT know-how	23	Technical knowledge (TK)	79
Troubleshooting	19		
Application	22		
Accessing e-resources	8		
Prior technical knowledge	7		
Ability to apply digital know-how	21	Digital acumen (DA)	76
Communicate using digital tools	24		
Collaborate digitally	19		
Apply digital technology	7		
Solve problems with digital technology	5		

Source: The author.

transcripts were analysed into sub-themes that represented the social phenomena discussed in the texts based on the narratives presented by the head of the institutions. The sub-themes were subsequently presented into broad themes and the same were tabulated in the form of outputs generated by N-Vivo 10 application (Table 3).

The qualitative phase has brought out a meaningful understanding of digital acumen, where the later has been identified as the ability of users (postgraduate business study students) to apply digital know-how, communicate, collaborate and solve problems by applying digital tools and technology.

In the next stage, the above sub-themes and broad themes were used to identify the respective measures and the constructs which were used in the research instrument (Table 4) emerging from the qualitative phase of the research. The instrument used a five-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree) to record and collect respondent

Table 4. Constructs and Their Corresponding Measures used in the Research Instrument Emerging from the Qualitative Phase of the Research.

Construct	Measures
Support from teacher (ST)	Our teachers help with problems encountered during online classes. (ST1)
	Our teachers share e-learning resources during conduct of online classes. (ST2)
	We get individual guidance from our teachers during online classes. (ST3)
	Our teachers frequently share information to help us during our online classes. (ST4)
	We get constant encouragement from our teachers during online classes. (ST5)
Support from peers (SP)	Our friends help us in solving problems encountered during online classes. (SP1)
	Our friends help us by sharing e-resources during online classes. (SP2)
	We collaborate for online learning. (SP3)
	We share information with one another which helps us during our online classes. (SP4)
	We get encouragement from our friends during online classes. (SP5)
Technical knowledge (TK)	We are needed to have IT know-how for our online classes. (TK1)
	We require technical knowledge for troubleshooting during our online classes. (TK2)
	We are needed to apply our technical knowledge during our online classes. (TK3)
	We are required to access e-resources for our technical knowledge. (TK4)
	Prior technical knowledge is needed for effectively attending online classes. (TK5)
Digital acumen (DA)	We are needed to apply our digital know-how for our online classes. (DA1)
	We are needed to communicate using digital tools for online classes. (DA2)
	We collaborate digitally for our online learning. (DA3)
	We are needed to apply digital technology everywhere in academic activities these days. (DA4)
	We are needed to solve problems using digital technology. (DA5)

Source: The author.

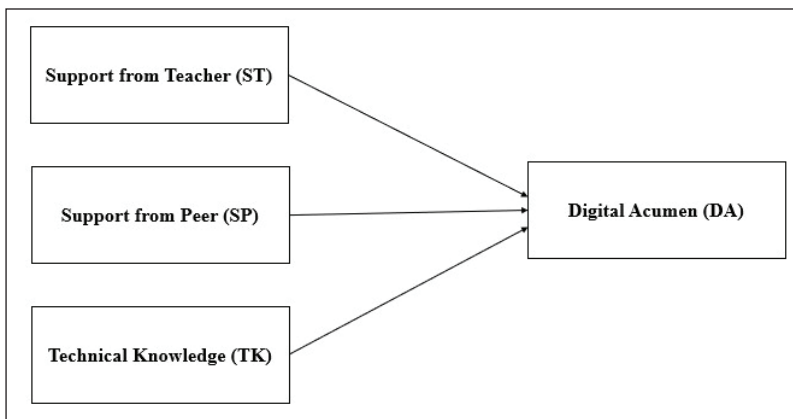


Figure 1. Modified Conceptual Model After Qualitative Study.

Source: The author.

Table 5. Proposed Hypothesis.

S. No.	Research Question	Proposed Hypothesis
I	RQ3. What is the impact of the factors influencing digital acumen of postgraduate business study students using online mode of learning?	H_1: Support from teacher (ST) has a role for influencing digital acumen (DA) of postgraduate business study students. H_2: Support from peers (SP) has a role for influencing digital acumen (DA) of postgraduate business study students. H_3: Technical knowledge (TK) has a role for influencing digital acumen (DA) of postgraduate business study students.

Source: The authors.

responses. Control variables such as gender, age and work experience were also included in the questionnaire for collecting personal data of the respondents.

Modified Conceptual Model and Development of Hypothesis

Based on the aforementioned emerging variables and their corresponding measures derived from the qualitative phase, the preliminary conceptual model developed from the review of literature was presented as (Figure 1).

Further review of the research gaps explored from the review of literature (Table 5) and the aforementioned modified conceptual model emerging after the qualitative phase, three hypotheses were proposed (Table 5).

Table 6. Respondent Profile.

Category		Number of Respondents	Percentage of Respondents	Valid Percentage of Respondents
Gender	Male	265	79.1	79
	Female	70	20.9	21
Age category	Below 20 years	0	0	0
	21–25 years	285	85.1	85
	26–30 years	50	14.9	15
	Above 31 years	0	0.0	0
	No	335	100	100
Work experience (if any)	0–1 years	0	0.0	0
	1–5 years	0	0.0	0
	Above 5 years	0	0.0	0

Source: The author.

Part 2: Quantitative Phase

During the Part 2 of the study, which was quantitative in nature, the research instrument developed from the qualitative phase of the research was used for collecting data from 335 postgraduate business study students located in the NCR using online survey method (Google Forms). These students were using the online learning mode in their institutions due to the COVID-19 restrictions.

Data Analysis

Respondent Profile

Data collected from the online survey (Google Forms) were downloaded in an excel spreadsheet and were subjected for rigorous check and data cleaning for making them ready for feeding in SPSS Statistics 20.0 application. As indicated in Table 6, 79% respondents were male whereas 21% respondents were female; 85% respondents were in the age group of 21–25 years, and the remaining 15% belonged to the age group of 26–30 years. All the respondents were freshers’ and had no prior work experiences.

Table 7 indicates that all the constructs had adequate (above 0.800) reliability scores individually. The construct support from peers had the highest mean score of 3.62, followed by digital acumen 2.77. Technical knowledge and support from teacher had mean scores of 2.59 and 2.58, respectively.

Exploratory Factor Analysis (EFA)

The data was subsequently analysed for exploratory factor analysis (EFA) in order to evaluate whether any measure pertaining to the corresponding construct were

Table 7. Descriptive Statistics and Reliability (Cronbach's Alpha) Scores for the Constructs.

Construct	Measures	N	Mean	SD	Cronbach's Alpha
Support from teacher (ST)	ST1, DT2, ST3, ST4, ST5	335	2.58	0.421	0.813
Support from peers (SP)	SP1, SP2, SP3, SP4, SP5	335	3.62	0.749	0.878
Technical knowledge (TK)	TK1, TK2, TK3, TK4, TK5	335	2.59	0.640	0.872
Digital acumen (DA)	DA1, DA2, DA3, DA4, DA5	335	2.77	0.827	0.861

Source: The author.

Table 8. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin measure of sampling adequacy		0.867
Bartlett's test of sphericity	Approx. chi-square	2,686.459
	df	190
	Sig.	0.000

Source: The author.

not contributing significantly towards the construct. In order to run the EFA, the data were run through Kaiser-Meyer-Olkin (KMO) and Bartlett's Test. The KMO measure of sampling adequacy score of 0.867 (Table 8) revealed that the data could be used for the further stages of factor analysis.

The rotated component matrix (Table 9) computed from EFA, revealed that, for the construct support from peers all the measures, SP1, SP2, SP3, SP4 and SP5, were contributing to the construct as their factor loadings were above 0.6. For the construct, technical knowledge, the measures TK4 and TK5 were having factor loadings below 0.6 for which they were found to be not contributing significantly towards the construct technical knowledge.

Similarly, for the constructs support from teacher, the measures ST4 and ST5 and digital acumen (DA), the measures DA4 and DA5 were found to have factor loadings below 0.6.

Confirmatory Factor Analysis (CFA)

Based on the inputs obtained regarding the measures for each construct, the data were fed into AMOS 20.0 for conducting confirmatory factor analysis (CFA), followed by path analysis using structural equation modelling (SEM) and a measurement model was developed for the same (Figure 2).

Table 9. Rotated Component Matrix^a Identified from EFA.

	Component			
	1	2	3	4
SP1	.880			
SP2	.806			
SP3	.812			
SP4	.661			
SP5	.807			
TK1			.834	
TK2			.848	
TK3			.729	
TK4				
TK5				
ST1		.754		
ST2		.809		
ST3		.738		
ST4				
ST5				
DA1				.849
DA2				.871
DA3				.818
DA4				
DA5				

Source: The author.

Notes: Extraction method: Principal component analysis; Rotation method: Varimax with Kaiser Normalization; ^aRotation converged in 5 iterations.

The standardized regression estimates and estimates of correlation derived from the AMOS output of the measurement model (Figure 2) were fed into Gaskin’s Statistical Tool Package Excel spreadsheet (Table 10) for analysing the validity of the data in terms of computing the average variance extracted (AVE) as the determinant of convergent validity and maximum shared variance (MSV) as the determinant of discriminant validity. Table 10 indicates that all the constructs namely technical knowledge, support from teachers, support from peers and digital acumen had adequate scores above the prescribed value of 0.5 for AVE, indicating that these variables had acceptable convergent validity. On the other hand, as the MSV scores for each construct were below their corresponding scores for AVE, the variables could be interpreted to have adequate discriminant validity.

The model fit estimates extracted from AMOS output (Table 11) indicates that the measurement model presented in Figure 2 had adequate estimates pertaining

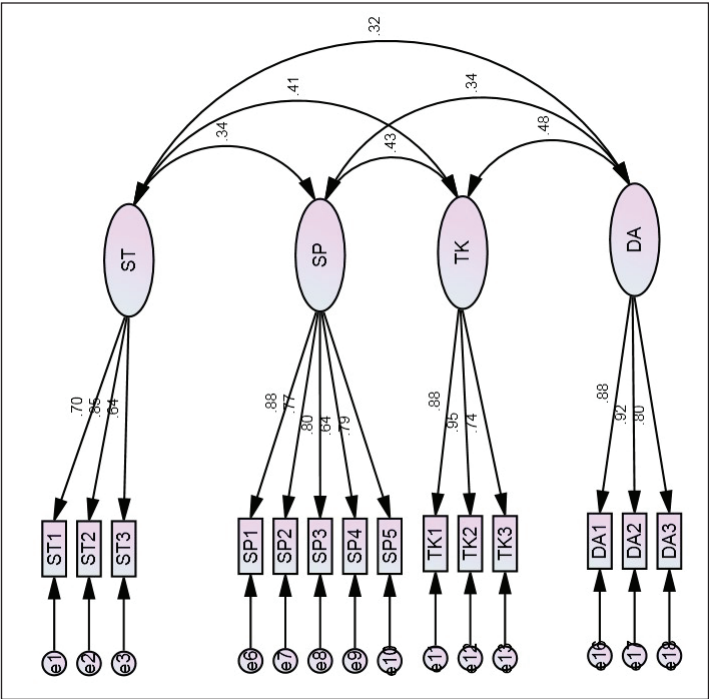


Figure 2. Measurement Model Developed for CFA.

Source: The author.

to root mean square residual (RMR) [0.055; score nearer to zero], goodness of fit index (GFI) [0.906; acceptable limit ≥ 0.9 ; good fit ≥ 0.95], comparative fit index (CFI) [0.948; good fit ≥ 0.9] and root mean square error of approximation (RMSEA) [0.078; good fit < 0.08] (Hooper et al., 2008; Kline, 2005; Parry, 2018).

Path Analysis using SEM

Based on the acceptable estimates of the CFA, the measurement model (Figure 3) for path analysis using SEM was developed using digital acumen as the dependent variable and support from teacher, support from peers and technical knowledge as independent variables.

Regression estimates (Table 12) of the measurement model (Figure 4) indicates that out of the three independent variables, only technical knowledge had significant implications (Std. $\beta = 0.366$, $p < .05$) on the digital acumen of postgraduate business study students. The other factors, namely support from teachers (Std. $\beta = 0.121$, $p > .05$) and support from peers (Std. $\beta = 0.143$, $p > .05$), had no significant implications on digital acumen.

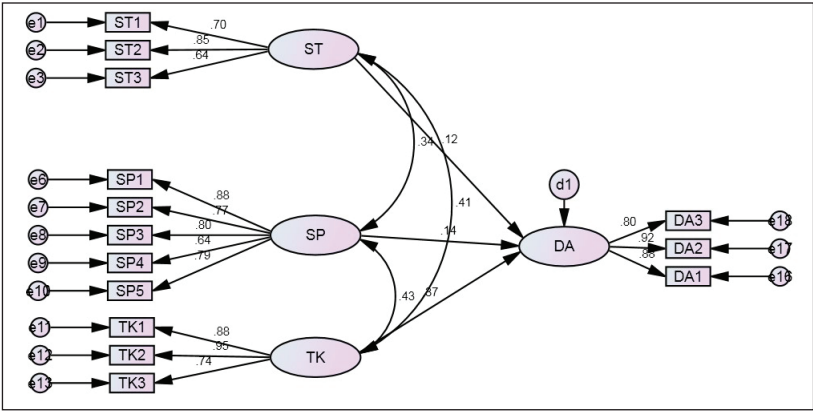


Figure 3. Measurement Model for Path Analysis.

Source: The author, using AMOS output.

Table 10. Computation of Convergent and Discriminant Validity Scores.

	CR	AVE	MSV	MaxR(H)	TK	ST	DA	SP
TK	0.894	0.739	0.227	0.929	0.860			
ST	0.751	0.603	0.166	0.777	0.407	0.777		
DA	0.903	0.758	0.227	0.918	0.476			
SP	0.886	0.611	0.181	0.901	0.426	0.335	0.339	

Source: The authors, using AMOS output and output from Gaskin's Statistical Tool Package.

Table 11. Model Fit Estimates for the Measurement Model.

Estimates	RMR	GFI	CFI	RMSEA	CMIN/DF
Default Model	0.055	0.906	0.948	0.078	2.355

Source: The author, using AMOS output.

Table 12. Regression Estimates of the Measurement Model.

			Estimate	Std. β	SE	CR	p
DA	<—	ST	0.224	0.121	0.147	1.522	.128
DA	<—	TK	0.477	0.366	0.106	4.484	
DA	<—	SP	0.156	0.143	0.083	1.895	.058

Source: The author, using AMOS output.

In order to have a detailed understanding of the interrelationships between the independent variables, their covariance estimates were also computed (Table 13).

Table 13 indicates that support from teachers had significant covariances with support from peers and technical knowledge. Similarly, support from peers also

Table 13. Covariance Estimates of the Independent Variables in the Measurement Model.

			Estimate	SE	CR	p
ST	<-->	SP	0.122	0.032	3.771	–
SP	<-->	TK	0.221	0.044	4.984	–
ST	<-->	TK	0.125	0.029	4.346	–

Source: The author, using AMOS output.

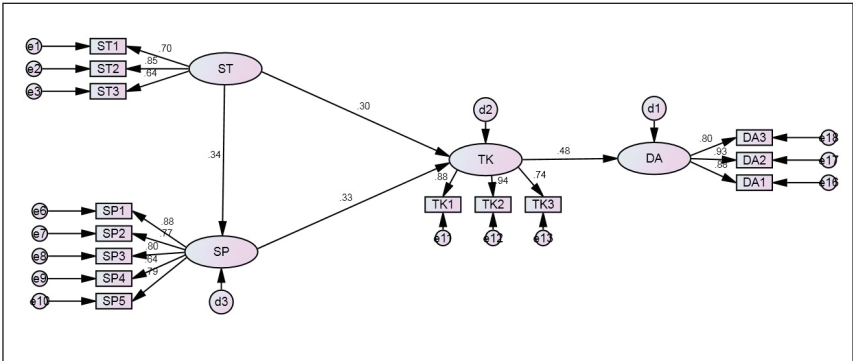


Figure 4. First Order Measurement Model.

Source: The author, using AMOS output.

had significant covariance with technical knowledge. Based on this understanding, the first order measurement model (Figure 4) was developed.

Regression estimates (Table 14) for the first order measurement model indicates that support from teachers had significant relations with (Std. $\beta = 0.335$, $p < .05$) support from peers as well as (Std. $\beta = 0.302$, $p < .05$) technical knowledge. Support from peers on the other hand had significant relation (Std. $\beta = 0.333$, $p < .05$) with technical knowledge, while the later had significant relationship (Std. $\beta = 0.484$, $p < .05$) with digital acumen.

Presentation of the Empirically Tested Model after Data Imputation

Based on the estimates of the first order measurement model (Figure 5), data imputation was conducted on AMOS which resulted in the presentation of the empirically tested model (Figure 5).

Table 15 indicates that technical knowledge emerged as the most important mediator (Std. $\beta = 0.519$, $p < .05$) for facilitating the digital acumen of postgraduate business study students attending online mode of learning from their institutions during the COVID-19.

Table 14. Regression Estimates for the First Order Measurement Model.

			Estimate	Std. β	SE	CR	p
SP	<—	ST	0.566	0.335	0.139	4.061	—
TK	<—	ST	0.430	0.302	0.115	3.756	—
TK	<—	SP	0.281	0.333	0.063	4.452	—
DA	<—	TK	0.628	0.484	0.097	6.453	—

Source: The author, using AMOS output.

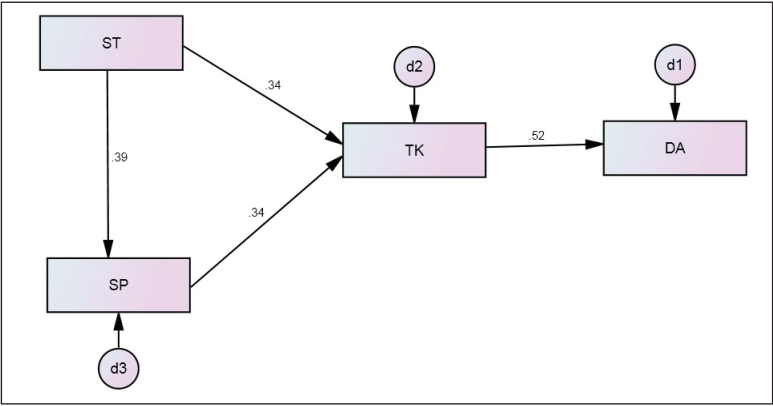


Figure 5. Empirically Tested Model After Data Imputation.

Source: The author, using AMOS output.

Table 15. Regression Estimates for the Empirically Tested Model.

			Estimate	Std. β	SE	CR	p
SP	<—	ST	0.685	0.386	0.110	6.255	—
TK	<—	ST	0.514	0.338	0.091	5.659	—
TK	<—	SP	0.291	0.340	0.051	5.691	—
DA	<—	TK	0.671	0.519	0.074	9.093	—

Source: The author, using AMOS output.

On the other hand, support from teachers was found to be the most important determinant factor which facilitated (Std. $\beta = 0.338, p < .05$) technical knowledge as well as (Std. $\beta = 0.386, p < .05$) support from peers among the students. The impact of support from peers on digital acumen was mediated by significantly influencing (Std. $\beta = 0.340, p < .05$) technical knowledge. Technical knowledge had significant relationship (Std. $\beta = 0.519, p < .05$) with digital acumen.

The above empirically tested research model (Figure 5) was further validated by the model fit estimates computed from AMOS output (Table 16). Table 16

Table 16. Model Fit Estimates for the Empirically Tested Research Model.

Estimates	RMR	GFI	CFI	RMSEA	CMIN/DF
Default model	0.022	0.988	0.981	0.021	2.841

Source: The author, using AMOS output.

indicates that the empirically tested model (Figure 5) presented above had adequate estimates pertaining to RMR [0.022; score nearer to zero], GFI [0.988; acceptable limit ≥ 0.9 ; good fit ≥ 0.95], CFI [0.981; good fit ≥ 0.9] and RMSEA [0.021; good fit < 0.08] (Hooper et al., 2008; Kline, 2005; Parry, 2018).

Discussions

Research objective: To have an understanding of what was meant by digital acumen for postgraduate business study students using online learning.

Part 1 of the study had explained digital acumen as the ability of users (postgraduate business study students) to apply digital know-how, communicate, collaborate and solve problems by applying digital tools and technology. In existing literature, digital acumen has been described as the ability of people to have an understanding of advanced technologies so as to create competitive advantages by effective utilization of data on real-time basis for effective decision-making (Brousell, 2019). On the other hand, Bokek-Cohen (2018) ascribed digital skills of employees as signals with which they could implicitly facilitate use of data and information for the needs of their organizations. It is evident that the implications pertaining to the understanding of digital acumen for postgraduate business study students and working employees were different and unique. Students emphasized more upon digital know-how which contributed towards their learning, whereas the use of digital tools was also important for them to communicate and collaborate effectively during their lecture delivery and learning. Furthermore, the present study also revealed that postgraduate business students also needed to use digital tools and technology to solve problems related to their academics which was an essential component of their learning and development.

Research objective: To explore and understand the role of factors influencing the digital acumen of postgraduate business students using online learning.

The qualitative phase (Part 1) of the study helped the researchers to explore the factors which contributed mostly towards the digital acumen among postgraduate business students. Although the existing literature had highlighted factors such as infrastructure, technical assistance, academic and collaborative support, teacher support and student support to be instrumental for developing digital abilities among people, the qualitative analysis had shown that the subject matter experts which included head of postgraduate business study institutions identified support from teachers, support from peers and technical

knowledge as the most important factors contributing towards the development of digital acumen among students.

In order to understand the impact of the above factors, the Part 2 of the study which was essentially quantitative in nature came out with an empirically tested model revealing the following relationships between the variables.

Impact of Technical Knowledge on Digital Acumen

The empirical model (Figure 5) established by using SEM indicated that among the three factors, technical knowledge was the only antecedent which had significant implications (Std. $\beta = 0.519$, $p < .05$) on the digital acumen of postgraduate business students. The study conducted by Bejaković and Mrnjavac (2020) indicates that digital literacy was essential for developing digital skills among people which further contributed towards socio-economic development. On the other hand, authors such as Cetindamar and Abedin (2020) discussed the importance of digital literacy for the development of digital skills among people in organizational set-up. Another study conducted by Bergdahl et al. (2020) pointed out that with increasing digitalization of modern education, students needed to inculcate technology-enabled learning so as to remain effective. Similar perspectives have also been reflected in the insights presented by Sunarjo (2021), who emphasized that digital and information literacy was an essential contributor of education. On the other hand, Nadkarni and Prügl (2021) emphasized on various aspects of technical knowledge assimilation which contributed effectively towards digital transformation. Based on these existing research evidences, it can be said that the findings of the present study had established the empirical relationship between technical knowledge and digital acumen with reference to postgraduate business study students which had not been reflected in earlier or recently conducted studies.

Role of Support from Teachers on Technical Knowledge and Digital Acumen

The empirical model (Figure 5) established in the study revealed that the variable support from teachers emerged as an important influencing factor which contributed towards the development of digital acumen of postgraduate business study students with the mediation of technical knowledge (Std. $\beta = 0.338$, $p < .05$) and support from peers (Std. $\beta = 0.386$, $p < .05$). The results indicate that support from teachers was instrumental for developing technical knowledge among students which contributed towards their digital acumen. On the other hand, support from teachers was also important for influencing peer support which further facilitated (Std. $\beta = 0.340$, $p < .05$) the development of technical knowledge among the students.

Impact of Support from Teachers on Technical Knowledge of Students

The present study had revealed that technical knowledge acted as a mediating factor between support from teachers and the digital acumen of postgraduate management students. The significant relationship between support from teachers and technical knowledge (Std. $\beta = 0.338$, $p < .05$) indicates that teachers played an important role in incorporating all the domain knowledge to the postgraduate business study students which helped them to develop and sharpen their digital acumen during the conduct of online studies. According to Laurillard et al. (2016), Salleh (2016) teachers played an important role for facilitating and bringing about innovations in learning pedagogies and imparting digital skills among students. Similarly, Lindberg et al. (2017) emphasized on the role of teachers for the effective implementation of Information and Communication Technology (ICT) during online studies. Early studies conducted by Howard (2013) discussed that teacher abilities and attitudes towards the use of ICT was essential for effective content delivery. Amin and Mirza (2020) discussed that teachers played a crucial role for online delivery of studies in virtual set-ups. These literature evidences justified that the findings of the present study were unique in terms of establishing an empirical relationship between the role of support from teachers for enhancing the technical knowledge among postgraduate business study students.

Impact of Support from Teachers on Support from Peers

The study had also highlighted the significant relationship between support from teachers and support from peers for postgraduate business students. This finding could be justified by the evidence from a study conducted by Azila-Gbetteor and Abiemo (2020) who suggested that lecturer support acted as an important contributor of student self-efficacy and class engagement. The study conducted by Huang et al. (2010) had earlier established the relationship of teacher support and support from others in academic institutions. Another research conducted by Kiefer et al. (2015) showed that teacher support and peer support in academic institutions were instrumental for fostering student motivation and academic involvement. The findings of the present research had thereby established an empirical evidence pertaining to the influence of support from teachers being instrumental for fostering support from peers among the postgraduate business study students.

Role of Support from Peers on Technical Knowledge and Digital Acumen

As evident from the empirical model (Figure 5) presented in this study, the influence of support from peers on the digital acumen of postgraduate management

students was mediated by the factor technical knowledge. Regarding the significant relationship (Std. $\beta = 0.340$, $p < .05$) established between support from peers and technical knowledge, it can be mentioned that earlier studies as those conducted by Karunanayaka et al. (2016) showed that peer-facilitated environments were important for facilitating learner engagement in a structured way, which indicates that the variable had important contribution towards learner knowledge accumulation. In this regard, Naidu (2006) discussed the importance of group support for effective ICT-based learning. The impact of peer support-based environments on ICT-based learning had been discussed and supported in the studies conducted by Ching and Hsu (2013) and Xia et al. (2013). In this context, as no conclusive evidence could be cited in the existing literature regarding the empirical relationship between support from peers and technical knowledge, the present study had added new insights in the existing body of knowledge.

Implications of the Study

The article has contributed effectively in terms of academic or methodological, practical and sociological consideration which would facilitate academicians as well as industry practitioners use similar approaches for investigating similar problems pertaining to learning and development using online methods during the continued saga of the global pandemic. Considering the methodological perspective, the present study had used sequential mixed methodology where the qualitative phase was instrumental to explore insights on what was perceived to be digital acumen for postgraduate business study students and also identify antecedents influencing the same. At the same time, the quantitative phase used the insights developed from the qualitative phase to establish the relationship between digital acumen and the antecedent variables in the form of an empirical model using SEM. This methodological approach would motivate future researchers and academicians to explore and dig out new insights on broader issues pertaining to online learning and their implications on student learning and development during the global pandemic. From the practical perspective, the study would also encourage trainers and learning and development professionals from the industry to streamline their approaches keeping in mind the findings of the research. Keeping the sociological perspective, the study would help head of institutions in B Schools and faculty members come out with innovative approaches in their teaching pedagogy and delivery, which would provide effective and engaging learning environments for students using the online mode of higher education during the pandemic.

Limitations and Scope of the Study

The present research had been only limited to the NCR and hence has immense scope if conducted on pan-India basis. The qualitative phase, as a part of the

sequential mixed methodology, could explore more antecedent factors related to student digital acumen if conducted across various streams of studies as well as on the national perspective. The study under such considerations would certainly have broader scope for exploring an in-depth understanding of the relationship between causal antecedents of digital acumen in students using the online mode of studies during the pandemic.

Conclusions

The study had highlighted the importance of technical knowledge development for facilitating digital acumen among postgraduate business study students and had also established the role of support from teachers to be the most instrumental factor to facilitate technical knowledge development and enhancing peer support among students. Peer support, on the other hand, was also found to be an important contributor towards the development of technical knowledge in students, which mediated the influences of peer support as well as support from teachers for development digital acumen among students. The empirical model presented in this research would help the head of intuitions, faculty members, researchers and corporate learning and development experts to bring about necessary changes in the existing approaches towards learner engagement and development using the online mode of teaching delivery during the COVID-19 pandemic.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author received no financial support for the research, authorship and/or publication of this article.

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Green Business and Performance of Green Stock Indices in COVID-19 Impacted Indian Stock Market: A Study with Reference to BSE S&P GREENEX and CARBONEX

MDIM Journal of Management
Review and Practice
1(1) 43–54, 2023
© The Author(s) 2023
DOI: 10.1177/mjmrp.221143429
mjmrp.mdim.ac.in



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Abstract

The Indian stock market and the investors' confidence level was affected badly by COVID-19 crisis. World Business Council for Sustainable Development (2020) had stated that investor decision-making at the present time is influenced by the sustainability orientation of the companies. In the context of COVID-19 crisis, it is important to project investor behaviour in the post-lockdown phase to understand the stock market potential. This research has attempted to perceive the status of economic resurgence with respect to two Bombay Stock Exchange (BSE) green indices, that is, CARBONEX and GREENEX. A comparative analysis of such indices has been performed over the lockdown and unlockdown phases until 20 July 2021. This research attempted to find if the indices were significantly different in lockdown and unlockdown phases. A significant mean variance would indicate development in sustainable business operations since lockdown period and an increment in such values would draw better investment in Indian stock market in future, even amid further mild COVID waves with partial lockdowns. One-way between-the-groups ANOVA has been performed to see if the

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means of CARBONEX and GREENEX indices are significantly varying in the aforementioned phases. A significant variance will help the Indian investors to look forward to the post-COVID economic reinstatement.

Keywords

COVID-19, BSE CARBONEX, BSE GREENEX, lockdown, unlockdown, investor behaviour

Introduction

The concept of sustainability in business emerged in 1987 as it was documented in UN World Commission on Environment and Development (Brundtland Commission Report). The essence of sustainability lies within environmental and social goals along with economic development. The concept of sustainability is equally applicable in a lower-middle income country like India. In recent days, traders across the world are thinking of going green and are trying to align their benevolent perspectives with strategic excellence (Martensen & Dahlgaard, 2009). Business houses are experiencing a swing nowadays from mere profit maximisation to socio-economic value addition (Kootanaee, 2014).

As mentioned, the consciousness about the values of sustainable practices in the business domain is growing. Business practices like decreasing pollution, enhancing energy efficiency, waste reductions, and so on, are being considered by organisations as cost-saving measures (Shields, 2015). The goal is obtained through the introduction of new products, increasing market share, retention of assets, and other forms of value creations (Sacuia & Dumitru, 2013). The sustainability initiatives which create value for the organisations are worth being nurtured by the corporate sector over a long period of time.

The world is going through an unprecedented crisis related to coronavirus disease that originated in 2019 (COVID-19) in China. The entire world had witnessed an economic slowdown due to the 'lockdown' process to minimise the contagious and virulent effects of the deadly pathogen.

The environmental quality had improved worldwide during the lockdown period. Reports from various countries confirm the significant reduction in NO_x (nitrogen oxides) and particulate matter (the dust particles) (Sicard et al., 2020). Air quality in the Indian capital New Delhi improved remarkably during this lockdown period (Mahato et al., 2020). In northern India, air pollution reached the 20-year minimum (Gautam, 2020) during the lockdown phase due to the first wave of coronavirus.

The development of air quality could be a result of the reduction of pollutants from transport sources as well as industrial sources. As a result of surface transport cessation during the lockdown period, it is quite evident that air quality improvement was a direct impact of reduced air pollutant emission from vehicles. In addition to that, reduced industrial activities had brought down the impact across 22 cities in India 'around 43, 31, 10, and 18% decrease' in particulate

matter, carbon dioxide, and nitrogen dioxide—the major air pollutants (Sharma et al., 2020, p. 1).

This environmental quality improvement is, however, a temporary phenomenon attributed to an unprecedented economic deadlock situation and cannot be attributed to the green performance of manufacturing units all over India. As the major manufacturing companies were either closed or reduced their scale of operation, the green business performance was affected during this lockdown phase.

At the same time, the COVID-19 crisis had a telling impact upon the stock market and investors' confidence level. Since the beginning of March 2020, the downslide both in SENSEX and NIFTY had been remarkable and worrisome for the Indian economy (Singh & Neog, 2020). However, the revival in these market capitalisation indices has been observed of late since the effect of COVID-19 has faded away to some extent on Indian economy due to progress in vaccination programs (Thomas, 2022).

It is noteworthy that investor decision-making at the present time is influenced by the sustainability orientation of the companies (World Business Council for Sustainable Development, 2020). Investors across the world are more focused on sustainability reporting to understand the sustainable behaviour of the companies (McKinsey & Company, 2019).

This research has attempted to explore the performance of CARBONEX and GREENEX—the green and socially responsible indicators of stock performance. A comparative analysis of these indices has been performed across the three phases until July 2021—the lockdown, unlockdown as well as partial state-wise lockdown, to see if any change has happened in investment patterns over these phases of environmental quality changes.

Review of Literature

The review of literature tries to address the research problems mentioned in the preceding section of this article.

If the positive environmental practices increase in an organisation, then higher economic advantage will also be attained (Wagner, 2013). Hence, the enhanced environmental contribution by the Indian organisations may lead to long-term economic benefit superseding the detrimental effect of COVID-19 debacle.

Investors in India are well guided by the index providing an idea about environmental risk mitigation—the S&P BSE CARBONEX that helps in understanding the risk associated with climate-changing performance of the companies. This is as efficient as BSE SENSEX for investor decision making (Bhandari et al., 2020). Similarly, BSE GREENEX—the greenhouse gas-emission performance indicator of BSE-listed companies also guides the investors to invest in the companies posing lesser threat to the environment (Bhattacharya, 2013). There have been some criticisms for these indices as well. GREENEX and CARBONEX have been referred as the immature indices still in its nascence (Sharma & Jasuja, 2020). However, due to the low volatility of GREENEX, the

environment-conscious investors are more focused on this index (Choudhary & Jain, 2018). Most significantly, these socially inclined indices have drawn better investment in Indian economy compared to its market-capitalisation-based counterparts like SENSEX and NIFTY during previous stock market crisis periods (Tripathi & Bhandari, 2015).

Identified Research Gap

In the context of COVID-19 crisis, it is important to understand the investor behaviour in the post-lockdown phase as well as repeated partial lockdown phase of COVID second wave. The post-lockdown phase is characterised by 10 unlockdown phases (June 2020 to March 2021) right before the COVID second wave. Further implementation of first state-wise lockdown in April 2021 during the second wave was observed in the state of Maharashtra and National Capital Region (NCR) of Delhi (*The Indian Express*, 2021). It was expected that the positive change in capital investment would take place during the unlockdown phases. However, it is essential to understand the alternate patterns of the recovery or downturn in Indian economy during pandemic. This research has made an attempt to identify the trend of economic journey with respect to CARBONEX and GREENEX during this COVID turmoil and the future of equity investment influenced by green indices over the conventional market capitalisation indices.

Problem Statement and Research Question

In consideration of the above factors, that is, the investor orientation towards the sustainability practices as well as the ill effect of COVID-19 on Indian stock market, the research question has emerged whether the green and sustainable business practices could possibly raise the investors' confidence level in the post-lockdown phase after the first wave?

There was a second wave of COVID-19 in India which started gearing up since March 2021 and finally attained a horrific peak in May 2021. Amid huge loss of lives, many Indian state governments had to take the 'lockdown' measure to control the pandemic breakout. Therefore, the research question further focuses if the green business performance could retain the investors' confidence during COVID-19 resurgence.

Research Design and Methodology

On the basis of research problem as well as identified research gap, this study is designed to identify if the sustainable business indices are regaining their health effectively since the COVID-19 lockdown in March 2020 or not. A comparative

analysis of such indices has been performed across the lockdown, unlockdown as well as partial state-wise lockdown phases until July 2021. The variances of the mean indices values have been observed and are tested to see if the variance is significant or not. A significant variance would indicate substantial development in sustainable business practices across the various COVID-19 restrictive phases and an increment in such values would potentially draw better investment in Indian stock market with a possibility of resurgence of Indian stock market scenario.

Data Analysis and Interpretations

Pattern of CARBONEX in Lockdown, Unlockdown, and Partial Lockdown Phases

One-way between-the groups ANOVA has been used to identify if the means of CARBONEX Index are significantly varying in lockdown and unlockdown phases. Through the analysis, it has been attempted to ascertain whether the change in CARBONEX values over the aforementioned time frames are just happening due to chance and whether the change is statistically significant or not. Moreover, if happening by chance, this type of change cannot motivate the investors to invest in the Indian stock market in anticipation of resurgence from the ongoing crisis period, hence leading towards further economic stagnation or slowdown. However, if CARBONEX shows a significant change along with the lockdown–unlockdown–partial lockdown phases, the investors can expect a better carbon-emission performance of the Indian manufactures when the pandemic situation will improve, hence, ascertaining better investment by the sustainability-conscious investors of India.

In this context, the null hypothesis (H_0) is assumed as,

H_0 : The variance of CARBONEX value is not significant in lockdown, unlockdown, and partially lockdown phases in India.

The descriptive statistics are listed in Table 1.

The maximum mean value is observed in partial lockdown phase (data obtained since April 1, 2021). The lowest index value is observed in lockdown phase as expected due to crippled industrial operations. The standard deviation is maximum during unlockdown period as the industries were not operating in full capacity (were operating in phases) and carbon emission control protocols might not have been implemented as per the standards. The standard deviation is fairly low at the later stages with clear indication of operational recovery and consistency even amid the partial lockdown.

Table 2 shows that our calculated F ratio (323.026) is significant with $p = .000$ at the 0.05 alpha level. Therefore, the null hypothesis that states that ‘the variance of CARBONEX value is not significant both in lockdown and unlockdown phases

Table 1. Descriptive Statistics.

CARBONEX Values						
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Upper Bound	Maximum
First lockdown	58	1,500.7976	128.70260	16.89948	1,466.9570	1,253.81
Unlockdown	212	2,045.5318	277.94014	19.08901	2,007.9022	1,594.18
Partial lockdown	75	2,515.9151	92.30548	10.65852	2,494.6775	2,348.58
Total	345	2,056.2106	387.44997	20.85961	2,015.1821	1,253.81

Source: The authors.

Table 2. ANOVA.

CARBONEX Values				
	Sum of Squares	Df	Mean Square	F
Between groups	33,765,840.088	2	16,882,920.044	323.026
Within groups	17,874,572.587	342	52,264.832	
Total	51,640,412.675	344		

Source: The authors.

Table 3. Robust Tests of Equality of Means.

	CARBONEX Values			
	Statistic ^a	df1	df2	Sig.
Welch	1,322.399	2	168.503	.000
Brown-Forsythe	672.246	2	310.116	.000

Source: The authors.

Note: ^aAsymptotically F distributed.

Table 4. Multiple Comparisons.

Dependent Variable: CARBONEX Values						
LSD						
(I) Lock-down Phases	(J) Lock-down Phases	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
First	Unlockdown	−544.73425*	33.87698	.000	−611.3677	−478.1008
lock-down	Partial	−1,015.11748*	39.97477	.000	−1,093.7448	−936.4901
lock-down	lockdown					
Unlock-down	First	544.73425*	33.87698	.000	478.1008	611.3677
lock-down	Partial	−470.38323*	30.71476	.000	−530.7969	−409.9696
	lockdown					
Partial	First	1,015.11748*	39.97477	.000	936.4901	1,093.7448
lock-down	lockdown					
down	Unlockdown	470.38323*	30.71476	.000	409.9696	530.7969

Source: The authors.

Note: *The mean difference is significant at the 0.05 level.

in India' is not accepted. This research thus identifies that the mean CARBONEX values varied significantly according to the change in the lockdown status.

Both the Welch and Brown-Forsythe Tests (the tests that check homogeneity of variance and confirm robustness in ANOVA) are statistically significant at $p > .05$ (Table 3); hence, the null hypothesis that there is no statistically significant difference in the means is not accepted. Therefore, it can be concluded that the mean difference is statistically significant.

Table 4 shows the mean difference of CARBONEX values between all phases (lockdown, unlockdown, and partial lockdown). Of note, the mean differences have been significant in case of all phases—between unlockdown (June 2020 to March 2021) and partial lockdown (April 2021 to July 2021); first lockdown and unlockdown; as well as first lockdown and unlockdown at 95% confidence level.

Pattern of GREENEX in Lockdown, Unlockdown, and Partial Lockdown Phases

The same method has been applied in case of another sustainability index, that is, GREENEX. The null hypothesis (H_0) is assumed,

H_0 : the variance of GREENEX value is not significant in lockdown, unlockdown, and partially lockdown phases in India.

The descriptive statistics are illustrated in Table 5. The maximum mean value is found in partial lockdown phase (data obtained since April 1, 2021). The lowest index value is found in lockdown phase as expected due to lack of industrial operations. The standard deviation is maximum during unlockdown period as the industries were operating in suboptimal capacity (were operating in sequential phases) and carbon emission control protocols were not practiced to the optimum level. The standard deviation is fairly low at present with clear indication of operational recovery and consistency amid the partial lockdown in many industrially developed states.

Our calculated F ratio (368.538) (Table 6) is significant with $p = .000$ at the 0.05 alpha level. Therefore, the null hypothesis is not accepted. This research therefore concludes that the mean GREENEX values varied significantly across the change in lockdown stages. Hence, the unlockdown process has rejuvenated the greenhouse gas emission management status of Indian industries.

Both the Welch and Brown-Forsythe Tests are statistically significant at $p > .05$ (Table 7); hence, the null hypothesis that there is no statistically significant difference in the means is not accepted. Therefore, it can be concluded finally that the mean difference is statistically significant.

Table 8 shows the mean difference of GREENEX values between all phases (lockdown, unlockdown, and partial lockdown). Of note, the mean differences have been significant in case of all phases at 95% confidence level.

Conclusion

The significant changes in CARBONEX and GREENEX over the consecutive post-lockdown phases (unlockdown and partial lockdown) had brought a silver line for Indian economy, which had been badly affected by the COVID-19 crisis. The pattern shown in this research will probably draw environment-conscious investor attention towards capital investment in India as the investors will be prone to invest if they find that the companies are practising sustainability. Carbon emission reduction and green business practices had evidently influenced investor decision as shown in this research with the varied values of green indices. However, the other control variables like third wave of Omicron COVID (January 2022) as well as Government's decision on borrowings of the listed companies might have played a significant role in moderating the investor behaviour in

Table 5. Descriptive Statistics.

GREENEX Values								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
First lockdown	58	2,252.6641	181.00331	23.76690	2,205.0717	2,300.2564	1,870.12	2,662.39
Unlockdown	212	3,089.5673	436.26195	29.96259	3,030.5029	3,148.6317	2,458.67	3,833.92
Partial lockdown	75	3,931.6145	127.90149	14.76879	3,902.1870	3,961.0419	3,704.03	4,095.76
Total	345	3,131.9243	629.73638	33.90387	3,065.2393	3,198.6092	1,870.12	4,095.76

Source: The authors.

Table 6. ANOVA.

GREENEX Values					
	Sum of Squares	Df	Mean Square	F	Sig.
Between groups	93,182,897.355	2	46,591,448.678	368.538	.000
Within groups	43,236,463.571	342	126,422.408		
Total	136,419,360.926	344			

Source: The authors.

Table 7. Robust Tests of Equality of Means.

	GREENEX Values			
	Statistic ^a	df1	df2	Sig.
Welch	1,859.214	2	170.295	.000
Brown-Forsythe	821.513	2	315.651	.000

Source: The authors.

Note: ^aAsymptotically F distributed.

Table 8. Multiple Comparisons.

Dependent Variable: GREENEX Values						
LSD						
(I) Lock-down Phases	(J) Lockdown Phases	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
First lock-down	Unlockdown	-836.90326*	52.68803	.000	-940.5366	-733.2699
	Partial lockdown	-1,678.95041*	62.17177	.000	-1,801.2376	-1,556.6632
Unlock-down	First lockdown	836.90326*	52.68803	.000	733.2699	940.5366
	Partial lockdown	-842.04716*	47.76991	.000	-936.0070	-748.0873
Partial lock-down	First lockdown	1,678.95041*	62.17177	.000	1,556.6632	1,801.2376
	Unlockdown	842.04716*	47.76991	.000	748.0873	936.0070

Source: The authors.

Note: *The mean difference is significant at the 0.05 level.

Table 9. Index: S&P BSE CARBONEX.

Year	Open	High	Low	Close
2020	1,977.31	2,280.13	1,213.19	2,274.48
2021	2,277.22	3,067.29	2,228.41	2,845.8
2022	2,850.68	3,011.43	2,582.56	2,851.43

Source: BSE India (2022).

Table 10. Index: S&P BSE GREENEX.

Year	Open	High	Low	Close
2020	2,831.14	3,421.65	1,819.14	3,414.19
2021	3,417.26	4,826.65	3,416.51	4,508.53
2022	4,522.04	4,888.03	4,113.64	4,618.21

Source: BSE India (2022).

reality. Nevertheless, the scenario with respect to the environment-friendly indices has definitely been encouraging as shown in Tables 9 and 10.

This research outcome has another dimension as well. If any further wave of COVID-19 becomes even more detrimental with 'complete lockdown', it will

have impact on these sustainability equity indices for Indian stock market and can further retard the positive investor behaviour. Otherwise, the partial lockdown will not hinder the green business performance and will not affect Indian economy.

Limitation of the Study and the Scope of Future Research

This study has assumed a linear relationship between green business practices and investors' response towards the green business practice without considering the effect of the control variables. This study has been performed using a simulated green business scenario using the lockdown and partial lockdown phase data with least industrial pollution. In this study, the green investment indices have been studied for three years 2020 to 2022, mostly the pandemic-stricken period.

The future study should include at least 5 year-time period after COVID-19 to come to a stronger inference on green investment behaviour in the Indian stock market.

In consideration of the aforementioned control variables (e.g., further COVID waves, more industrial automation and digitisation, Government policy, and further change in investor behaviour, etc.), the future study can be designed to project the future trend of investors' green behaviour in India. The present research lays a foundation for this future research by showing a significant transition of investors' decision so far towards sustainable business practices. However, comprehensive statistical modelling will help making the projection in the future studies accurately.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The authors received no financial support for the research, authorship and/or publication of this article.

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Knowledge Society and Information Technologies in the 21st Century

MDIM Journal of Management
Review and Practice
1(1) 55–61, 2023
© The Author(s) 2023
DOI: 10.1177/mjmrp.221145274
mjmrp.mdim.ac.in



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Abstract

The prosperity that gives greater credit to society, in terms of quality of life, is that which is based on knowledge. Information technologies (IT), particularly those applied in the field of education, play a crucial role in shaping innovative, creative and competitive actors in the contemporary global world. 'The utilization of information and data, as well as the knowledge, skills, and talents present within communities, as well as their views, commitments, and motives for making wise judgments, are among the fundamental components of knowledge management' (Stevenson-Perez, 2009, *U.S. Patent Application No. 11/904,120*). It has been argued by several eminent social scientists on this subject that organizational knowledge ought to be viewed as a strategic advantage. To solve issues and take advantage of opportunities, communities are being pushed to create effective and efficient means of assembling, identifying, capturing and distributing their collective knowledge and expertise. This understanding of the significance of doing so is developing. People all around the world are interested in putting knowledge management practices and technology into practice, and many of them have made knowledge management an essential component of their overall growth plans. Management of knowledge is becoming more and more crucial to the growth of the world economy. Organizations should not neglect knowledge management and developing technologies if they want to stay relevant in the current world.

Keywords

society, knowledge, information technology

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Introduction

Knowledge is traditionally deemed to be independent of information and facts. New options are becoming possible as technology develops. Successful performance and progress in knowledge-intensive societies need the integration and exchange of highly dispersed information. Knowledge management has emerged as one of the most crucial elements in enabling society and businesses to raise productivity and competitiveness at the same level regardless of market conditions during recent decades as society has expanded and changed in rhythm with increasing technology. Many individuals are asking for a fundamental shift in the way we think and act about how we operate our businesses because powerful forces have powerful consequences that are influencing the global business and economic climate.

Knowledge management is also seen as an important component when taking into consideration the advantages of developing technology, including the development of reusable services that enable businesses to use these services independently.

Literature Review

The business globalization environment has seen a substantial upheaval over the past two decades as a result of shifting customer needs, advancing technology and the marketing environment. To survive in this hostile climate, commercial firms have started to reposition their competencies through the application of a variety of strategies. 'Lean manufacturing is a form of productivity improvement that focuses on restructuring the manufacturing system in terms of processes, minimizing waste, eliminating differences, and lowering costs' (Kërçi et al., 2022). Information technologies (IT) usage is positively and significantly impacted by government policies and technological proficiency.

To support the government, technology experts should create strategies to support and promote businesses that use it. These strategies should include raising money for technology-adopting businesses, promoting online tax payment and information systems, maintaining regulations or laws that can affect IT usage and the security of businesses that use it, and creating IT software standards for SMEs and globalization (Sila, 2022).

For Lueny Morell (n.d.), one of the main challenges of professional teaching in the 21st century lies in understanding the contemporary student: creative, mobile, multi-tasking, collaborative and producing. Hence, within five proposals for higher education (in his case, for engineering) is to establish an emphasis on learning, rather than on teaching. One key is collaborative learning through the use of information and communications technology (ICT).

According to Davidson and Goldberg (2009), the digital era has made previously unimaginable opportunities for self-learning, the development of horizontal constructions subvert conventional authoritarian systems, communal

credibility, decentralized learning and online learning possible aspects. The foundation of ICT is the connection, which creates interaction.

For a country in the state of development of India, the appropriation of ICTs in non-formal and formal, face-to-face and virtual learning processes, in horizontal collaborative environments is one of the keys to acquiring competitive advantages based on knowledge, which allows for raising the standard of living and productivity of their regions and cities. The actors in education, including students, teachers, parents and institutional authorities, have the opportunity to embark on rewarding learning paths that can shape the immense capacities for creativity and innovation of children, youth and adults.

Objective

Objectives of this study are as follows:

- Understand knowledge societies, produce, process, communicate and apply information in order to develop and apply knowledge for human progress.
- Knowledge society's mission is to help institutions increase the use of IT based on knowledge society.
- Rapid adoption of innovative technologies.
- IT can give idea of legal standing to transactions carried out through electronic data transfer and other electronic communication methods.

The Greatest Prosperity Comes from Knowledge

A society with high-quality education among its citizens, especially children and young people who are respectful, critical, creative, productive, collaborative, democratic, and environmentally friendly, is more likely to prosper, suggesting that knowledge is the main factor influencing a large community's wealth.

In the world concert, nations, their regions and their cities relate to each other based on various types of competitive advantages that characterize them. The structure of the labour market, the composition of exports, the coverage and quality of the educational system, the capacity for innovation and the type of foreign investment are closely related to the competitive advantages on which a country (or region) bets.

In some cases, it may be the abundance of cheap, low-skilled labour that characterizes a country's economic relations with the environment. In others, it could be the endowment of natural resources, whether mining, energy or agriculture, as a source of competition.

However, the economies with the highest levels of quality of life find their source in knowledge the main source of wealth generation. Thus, in the 'club' of societies with high income per capita in the world, the Organization for Economic Cooperation and Development (OECD), with 34 members (including India, Chile

and Mexico), has conceptualized, since the 1990s, about the so-called knowledge economies.

The knowledge-based economy with the highest levels of quality of life finds its source in knowledge. Within the distribution of the gross domestic product, a concept being used highlights how advanced economies are more dependent on knowledge and information, and how businesses and the public sector need access to these resources more and more frequently.

The OECD recognizes that the main engine of productivity and economic growth is knowledge, a factor that, unlike others (mining resources and land, for example), is not 'used up' with its use. It is highly renewable to the extent that the members involved in the age, use and dissemination of knowledge have platforms to share it.

Ian Brinkley (2008) defines the knowledge economy as follows:

One in which the generation and exploitation of knowledge come to play a predominant role in the creation of wealth. It is not simply about crossing the frontiers of knowledge; it is also about the most effective use and exploitation of all types of knowledge in all areas of economic activity.

The knowledge economy is not limited to the productive sectors of high-technology goods and services; it refers to new sources of competitive advantage, applicable in any productive sector, in any company, in the countryside or the city, based on knowledge.

The Appropriation of ICT is Crucial for Knowledge Societies

Multiple factors converge so that a given society can move towards the generation of wealth based on knowledge. The quality and relevance of the educational system, as well as its coverage at all stages of training, society's interest in scientific and technological activities, particularly research and development and the construction of innovation capacity, the articulation of the productive sector of goods and services with universities and research centres. The capacity of society to have long-term strategies and carry them out in an articulated manner and investment in infrastructure (roads, ports, telecommunications), among several determinants.

An essential element on the path towards the creation of wealth based on knowledge is the degree of appropriation of ICTs. Hence, investment, public and private, in all elements that make up the ICT ecosystem, is the object of primary interest in the field of public, academic and productive policies.

Infrastructure (the basis for connectivity), applications, users and services must converge form a virtuous circle that allows multiple social and economic processes to coincide to create competitive advantages based on knowledge.

The appropriation of ICTs is transversal and applicable in the most diverse sectors (health, companies, government and justice, among others). The emphasis of this article is on the appropriation of ICT in the field of education.

The Use of ICT in Education is Decisive, Collaborative Learning

The way individuals learn has been fundamentally altered by the internet, the ease of access to information sources and the methods by which we send all kinds of data. With the massive advancements in technology, traditional pedagogical frameworks for college and university instruction that are logical and rely on face-to-face interaction and information that is recognized by academic authorities are no longer relevant. In general, official educational institutions do not make use of the virtual spaces for non-formal learning that are being created by tools such as blogs, social networks and wikis.

Learning today is about collaboration, participation and creativity, if it can be put that way, to the flattening of the hierarchies of knowledge. More than an interest in the product of knowledge, the current emphasis is on learning processes. Wikipedia is a good example of how, through the participation of millions of individuals and good structuring, 27 million pages can be created through an open generation and validation system that has left behind the traditional masterpieces of the type 'Encyclopaedia Britannica' as a reference source.

Science Knowledge Management Platform for Quick Learning and Assessment

The most important innovation is scientific knowledge management, a learning portal system and method that offers the right levels of programming and feedback to let end-users accept a new science in its most advantageous and fundamental aspects, specifically mastery of the instruments for evaluating, measuring and improving scientific value. The system and method of the invention also teach the proper use of scientific knowledge management tools to anyone who is suitably and prepared to use such a scientifically value-oriented learning system, without the said person being required to have prior knowledge of the physical sciences in a great deal less time than that required to achieve comparable rates of scientific skill mastery using the fastest available conventional methods.

Content Management

It describes a content management strategy. The technique entails recognizing the digital sending apparatus. The procedure includes creating a design for an automated business process. Furthermore, the method entails converting the automated business process design into information technology templates for setting up each of the cited digital sending devices to implement the automated business process.

The Model of a Learning Organization

Better and quicker learning is crucial for businesses that want to survive and develop. Many businesses use fast and simple remedies that are frequently influenced by technology. Most are fruitless efforts to bring about organizational transformation. However, without knowing what motivates it, an organization is neither feasible nor sustainable. The organization, people, knowledge and technology subsystems of learning or an organization are depended on each other. Each subsystem helps the others by enhancing learning as it spreads across the entire system.

Organization

Organizations are realizing the importance of learning and how it can increase their effectiveness. This is shown by the fact that it has an inspiring educational goal and an instructional strategy that will aid the institute in achieving its educational mission.

It is not the strongest of the species who survive, nor the most intelligent; rather it is those most responsive to change. —Charles Darwin

Technology

ICTs may be used successfully by learning companies without stifling knowledge management and learning. In learning organizations, ICTs are used, among other things, to foster organizational identity, build and maintain learning communities, inform staff, clients and others about economic vitality, forge unforeseen, fruitful connections between people and grant access to their knowledge and ideas, foster innovation and creativity, share and learn from successful practises and unintended results, and ability to participate.

What is Knowledge Harvesting?

An integrated set of procedures that make it possible to record the frequently unnoticed wisdom of human knowledge. The knowledge is then transformed into a specific application that can be shared with others. Depending on the knowledge of each employee, data and information from the acknowledgement system are used. The process is referred to as knowledge harvesting. Addressing business issues through open innovation initiatives has additional information.

Conclusion

The function of knowledge management in the context of developing technologies is to increase responsiveness to partners and customers. Incorporating a knowledge management system with developing technologies into a company provides insight into potential possibilities, prompting answers to specific concerns and services. Within a few years, new technology and electronic systems will most certainly provide the majority of information. The influence of information technology on company growth and globalization is enormous. Unfortunately, more study has not been undertaken until now owing to a range of variables such as security concerns for commercial organizations or the important link of the specific sector to their interests. Organizations have developed initiatives to provide business solutions using information technology platforms.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The authors received no financial support for the research, authorship and/or publication of this article.

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Mis-selling Issues and Factors Responsible for Mis-selling in the Financial Services Industry with Special Reference to Insurance Industry: A Theoretical Study

MDIM Journal of Management
Review and Practice
1(1) 62–68, 2023
© The Author(s) 2023
DOI: 10.1177/mjmrp.221145276
mjmrp.mdim.ac.in



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Abstract

Over the years, since the financial opening up of the Indian economy in the early 1990s, under the previous government, there has been an overselling of a lot of financial products. This over selling has led to huge problems to the consumers in the form of mis-selling or overselling. There have also been issues with relation to lack of proper financial education to the consumers by the financial bodies. The present study looks into the problem of mis-selling and how different consumer factors lead to this problem. A conceptual framework to this problem is given and based on that, information is analysed.

Keywords

mis-selling, financial products, cross-selling, financial regulation

Introduction

Mis-selling is a big issue in the financial services industry. Today's financial institutions such as banks, mutual fund houses, insurance companies and so on are overloaded with data on customers through various data sources. The problem on mis-selling may reduce in the financial year beginning of 2020 April as a result of

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government policy changes made in the budget. The decision being that section 80C of salary insurance was taken out as a saving tool along with ELSS and 70 other exemptions.

The Insurance Regulatory and Development Authority has set a high target on the agents, which has led to agents not being able to achieve the target owing to high work pressure and lack of proper training.

Bali et al. (2011) mentioned that there is a lot of mis-selling happening over the last 1 year. According to the collection of data, a lot of multiple selling occurs in all the areas of insurance, for example, regarding getting benefits of insurance, wrong paper submission, fixing between the agent and customer and so on. Indian regulators work hard to reduce costs. One of its main focus areas to control or reduce costs is by proactively arresting mis-selling, which can be achieved through an effective mis-selling risk assessment programme, that is, verifying the agents and customers. Checking the proof of the agent claims on the customers, mystery shopping, that is, getting data relating to the various channel partners, brokers and so on compliance reviews including review of advertising expenses.

Baradhwaj (2011) had identified that client-related multiple selling can happen at variety of situations at the time of providing documents to the customers, such as wrongly mentioning of health, family history, occupation and so on in the offer documents (Ahmed & Hamdan, 2015). Distributor-related multiple selling could take by submitting fake documents, misappropriation of finances and so on. Tseng and Shih (2012) noted that at the agents lure customers by giving them fake promises at the time of obtaining the products and promoting these insurance products as investment products.

Sarkodie and Yusif (2012) noted in this study, the researcher tries to collect the different theories related to mis-selling and tries to analyse the factors that led to these theories being.

Problem Statement

The study aims to find the main factors behind mis-selling and the reasons why mis-selling occur in the financial services industry and the factors behind the growth of the same. Mis-selling is a malpractice used by salespeople to sell their products.

Objectives

Following are the objectives of the study:

1. Study the ethical and unethical aspect of selling in the insurance industry.
2. Understand various sub-factors influencing the sales of products such as corporate governance.
3. Understand the impact of financial regulation on sales of products.

Literature Review

Cross-selling

This is another issue faced by insurance companies wherein banks sell insurance products to existing customer and customers may buy the insurance products as they are having some contact or relation with the bank. Vladimir et al. (2013) noted that cross-selling is widely used by various financial institutions in reaching to their customers by utilizing the faith and trust of the previous products which have been sold successfully to the customers. According to Kumar (2012), in a study with special reference to State Bank of India (SBI), it was observed that SBI was in the process of doing cross-selling to customers who were availing savings account services from the bank. This cross-selling may be in the form of trying to sell mutual funds, insurance products and wealth management product.

Cross-selling insurance business also follows some methods to get the best possible sales from a customer based on various factors such as (a) customer's ability to buy and (b) their profession and purchasing power.

Rekha (2015), in her study, observed that cross-selling can be really successful for insurance companies. Following are some of the reasons of higher number of cross-selling:

1. Increased revenues
2. Cost reduction
3. Benefits of economies of scale
4. Building brand values
5. Reduced overheads

Li et al. (2011), in their study, have noted that companies that practice cross-selling have a higher percentage of sales than companies that do not practice cross-selling. Companies formulate cross-selling strategies in multicultural societies, which can be very effective in making companies very strong in reaching their target market and customers. Companies also attain better goodwill of the customers as both the customer and the employees are happy in the long run as both know each other on a better level, and companies in service industries build better relations with the customers.

According to Dalal and Sapkale (2018), banks regularly charge their customers a premium for insurance products without their knowledge. Banks also force their employees to meet the target in the achievement of the sales target for the various insurance products. This is a practice when banks sell insurance companies products that may not be needed along with the existing insurance products. For example, the customers may be purchasing a mutual fund and along with this product they sell insurance as well.

Unethical Practices of Agents

Agents themselves follow unethical practices on a regular basis and this affects the growth of any business or industry. Financial products by themselves are

purchased as a result of the efforts of the agents and just advertisement done on the same by the companies. The majority of insurance policies are sold by the agents to their respective contacts with their knowledge of the existing known customers and friends. These friends and relations play an important role in influencing the customer to buy the insurance product and be a regular customer of the company (Singh et al., 2011). An insurance agent occupies a position of trust in the company and, on his word, the friends and family members invest in insurance and other related products. This trust may or may not be broken by the action of the agent in terms of good customer delivery or bad service, both of which may impact the sales of the insurance products in the long term (Balachandran, 2011). Agents try to sell insurance policies wrongly to customers to earn more commission and make the customer a victim of his sales practices. Agents are very successful in manipulating the thoughts of the customer through fear, coercion and other unethical practices.

The distribution channels in India can undergo multiple transformation with banking partnership and digital marketing from time to time. Anuj Agarwal (2011), in his study, noted this point.

As per Albert Schweitzer (2009), there is a requirement that agents' behaviour should be good to the customers at all times and this good behaviour can result in attracting large number of customers for the agents in the long term. In order to sell insurance products, the agents may give the customer gifts such as cashback, coupons, premium discounts and so on.

Lack of Corporate Governance

In the insurance industry, most insurance companies lack governance at various levels of lower employee like agents, especially in developing countries. In the case of Bahrain, it was observed that agents regularly work in close connection with various top-level employees of insurance companies, and this was helpful in reduction of the mis-selling.

Lack of corporate governance is a practice of companies ensuring that the resources are not acquired unlawfully. Najjar (2012) noted that many companies have different methods for checking the accounts by chartered accountants, ensuring the investors are given details of the company functioning and so on. Indian companies listed in stock exchanges are in a better position.

Financial Regulations

The financial regulations from various insurance agencies in the United kingdom in the 1980s led to an issue of private pensions being part of the process of unnecessary burdening the customers with new products. In 1990s, there was an issue of private endowment policies, this whole product and the endowment product (insurance products where payment is made at the time of maturity) was illegal and as a result, the company had to pay huge amount in compensation to customers (Zepeda, 2012).

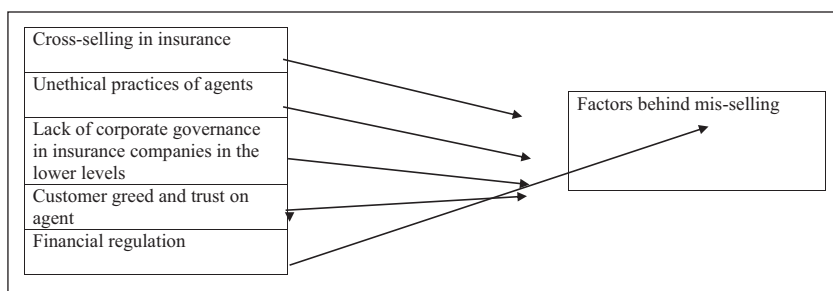


Figure 1. Mis-selling and Factors Influencing Mis-selling Based on the Above Concepts.

Aditya Nath Jha (2014) notes that since privatization in insurance field is allowing other companies to sell insurance, various channel partners have been allowed to sell insurance as well. Shivanand H. Lengti (2009), in his study, found out that the coverage of insurance customers have the choice to choose the perfect authority and forum. The article has found that the aggressive marketing of the insurance has changed over the years. The expectancies of customers have changed with respect to rules and technologies.

Conclusion and Implications

From the analysed studies, it was observed that many factors are responsible for mis-selling. These factors in total cannot be the only factors responsible for mis-selling. Mis-selling is a by-product of many internal and external factors in the industry and the company (Figure 1).

Factors such as cross-selling can make the customers temporarily buy the product and create thoughts of huge benefits to customer as a result of past experiences, but it is just temporary. Sometimes the insurance companies lack corporate governance as a result of huge internal division, and this can create benefits to the customers and agents for personal gains. Corporate governance can be a tool which is misused in developing countries and this can be an issue by itself for many insurance companies. Sometimes financial regulations can be put in place to control all the wrong practices in mis-selling in these countries and can create problems for insurance companies.

Limitations

There are various limitations to this study. Some of them are stated below:

1. This study is limited to India.
2. It is done during COVID-19 times, and mostly secondary data is used.
3. The companies and businesses were subject to frequent lockdown, and insurance industry and sales staff was severely affected.

Recommendations and Scope of Further Studies

Mis-selling can be a cause of concern, and a change in strategy is needed by financial institutions. Sales teams should ensure that mis-selling is minimized and successful marketing is done without forcing the customers. This study can be further focused on the impact of mis-selling on customers and help companies to have a better understanding of the all sides of the story. The study can further focus on providing better training to the agent to improve their skills in selling the products.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author received no financial support for the research, authorship and/or publication of this article.

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