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ASSESSING CRISIS LEADERSHIP IN THE CONTEXT OF FRUGAL INNOVATION IN INDIA

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Abstract

In India, where resources are limited and unpredictable events are common, the ability to combine crisis leadership with cost-effective innovation is critical to the success of businesses and organizations. Leaders must be able to think creatively and strategically to address challenges while being aware of cost implications. By adopting frugal innovation practices, organizations can develop innovative solutions that are not only affordable but also environmentally sustainable. This approach can help organizations build resilience and competitiveness in the face of crises, ultimately leading to their long-term success.

Keywords: Cost- Effectiveness, Crisis Leadership, Frugal Innovation, Sustainability.

Hindistan'da Tutumlu İnovasyon Bağlamında Kriz Liderliğinin Değerlendirilmesi

Öz

Kaynakların sınırlı olduğu ve öngörülemez olayların yaygın olduğu Hindistan'da, kriz liderliğini uygun maliyetli inovasyonla birleştirme becerisi, işletmelerin ve kuruluşların başarısı için kritik önem taşımaktadır. Liderler, maliyet etkilerinin farkında olurken zorlukların üstesinden gelmek için yaratıcı ve stratejik düşünebilmelidir. Tutumlu inovasyon uygulamalarını benimseyen kuruluşlar, sadece uygun maliyetli değil aynı zamanda çevresel açıdan da sürdürülebilir yenilikçi çözümler geliştirebilirler. Bu yaklaşım, kuruluşların krizler karşısında dayanıklılık ve rekabet gücü kazanmalarına yardımcı olabilir ve nihayetinde uzun vadeli başarılarına yol açabilir.

Anahtar Kelimeler: Düşük Maliyet, Kriz Liderliği, Tutumlu İnovasyon, Sürdürülebilirlik.

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Introduction

An innovation-based crisis leadership in organizations has started to be adopted as an approach that brings sustainable innovative solutions. ‘Crisis’ is defined as a situation that grows suddenly and compels a response from an individual or an organization in order to alleviate its negative impact (Ibrahim, Fakharu’l-razi & Aini, 2003; UN Global Compact, 2020).

From the earlier emphasis on merely managing the crisis, the focus has now shifted to devising new ways and methods to effectively deal with all such future crises, given the probability of such adversities has increased manifold in the wake of a deeply embedded process of globalization. In other words, ‘Crisis Leadership’ in today’s world entails not just immediate quick fixes but sustainable and emulation-worthy long term solutions. The leadership should be geared more towards making the local communities willing and resilient to accept and face the imminent changes and challenges. It should be a community-led ‘Crisis Leadership’ model deeply rooted in both the theoretical and practical underpinnings of ‘Crisis Leadership’ and ‘Management’ (Bhaduri, 2019; Ibrahim et al., 2003).

It is the crisis leadership models that frugal innovation closely resonates with. Frugal innovation (FI) seeks to achieve the optimum solutions with minimum possible resources. Crises situations call for innovative thinking to combat challenges parsimoniously. Emergencies cause humans to re-think traditional leadership styles. The goal of frugal innovation is to optimize the value-to-resource ratio. Value may be created for shareholders, consumers or the society at large. Resources include time, money and energy. Consequently, the ability to “*do better with less resources for more people*”—that is, to considerably increase value while minimizing resource use—is referred to as frugal innovation. Any economical innovation is often disruptive. Businesses must concentrate on maximizing value and minimizing resource usage at the same time. Furthermore, shared value and other related ideas in business about socially conscious innovation are akin to frugal innovation. Similar to shared value, frugal innovation focuses on improving outcomes for the company as well as those parties that the company interacts with. Shared value is one aspect of frugal innovation, but it is not the only one. Creating additional value for whoever the company chooses to create it for—consumers, shareholders, or the society at large—is the first goal of frugal innovation. Secondly, the methods used to create more value—more precisely, the resources used to create value—are of major interest for frugal innovation. Shared value frequently overlooks this aspect (Hossain, Agarwal, Bhatti & Levänen, 2022).

Frugal innovation (FI) closely relates to low-income markets (Hossain et al., 2022; Lange, Hüsigg & Albert, 2023), so unused trade models are fundamental for serving FIs to the gigantic showcase of low-income clients (Hossain, 2021a; Howell, van Beers & Doorn, 2018; Winterhalter., Zeschky, Neumann & Gassmann, 2017) who cannot manage customary items (Lange et al., 2023). Such clientele frantically look for items that meet their needs and regard their budgets, so there is a developing intrigue in creating reasonable items (Agarwal, Grottke, Mishra & Brem, 2016).

Resource-constrained situations provoke rustic individuals to create FIs through “out of the box” solutions (Hossain, 2020). Business visionaries and organizational environment are closely interlinked in rural areas (Lang & Fink, 2019), and they have to overcome extreme asset limitations to create thrifty outcomes (Sarkar, 2020; Wierenga, 2021). Collaboration among different accomplices is profitable to affect social orders (Kwong, Tasavori & Wun-mei Cheung, 2017) through developing local communities (Pansera & Owen, 2015). Community-based endeavours are another source of national development. FIs were more pertinent amid the Covid-19, as individuals looked for

reasonable gloves, face shields, face covers and so on (Corsini, Dammico & Moultrie, 2021; Manta, Hysa & Kruja, 2021). Be that as it may, the FI concept has been criticized for exploiting individuals with greater incomes, profiting people within the formal economy by broadening imbalances and being contradictory with many other competing concepts (Tesfaye & Fougère, 2022; Hossain, 2021b). FI is dependent upon thriftiness of enterprises (Hossain & Sarkar, 2021).

All in all, FI is broadly acknowledged as a promising concept in creating reasonable items for underserved clients, especially those in the creating countries, thereby contributing to sustainable development in these countries (Pansera & Owen, 2015).

Frugal innovation can be characterized as creative services and goods that try to minimize the quantity of material and financial resources employed across the value chain with the goal of lowering ownership costs while reaching or surpassing certain pre-established quality criteria (Tiwari & Herstatt, 2012). Recently, researchers have developed an integrated theory of FI that takes into account both technological and commercial factors. A product, service or solution that emerges despite constraints on finances, human resources, technology, and other resources is referred to as FI (Hossain & Sarkar, 2021). If feasible, the final product or solution will be less expensive than competing offerings and will satisfy the needs of customers who would not otherwise be served.

All in all, the key objective of this article is to assess the linkages between crisis leadership and frugal innovation in India.

After undertaking a thematic review of literature, the perspective is divided into the following sections. *First*, an introduction to the article theme is given. *Second*, frugal innovation is discussed in India's context. *Third*, crisis leadership models are elicited, both in the context of India and the world. *Fourth*, a link is deduced between crisis leadership and frugal innovation in India. *Fifth*, the article is concluded and *last*, some of its key future policy implications are discussed.

Frugal Innovation in India

Both structured and unstructured FI are possible (Christensen & Raynor, 2013). Since the business strategy targets underserved and cost-conscious clients, it frequently causes disruptions. The international automakers worked together to take Maruti Suzuki's market share in India. They got the impression that FI steals business from more established companies and gives it to start-ups. It is not because of perception; rather, affordability and cost consciousness make it feasible. A company's business can benefit over the long run from frugal innovations, as the Tata Group and Maruti Suzuki in India are examples of. Conversely, the inventions created by the Indian Space Research Organization (ISRO) show that thrifty creations are methodical as well as well-arranged (Tiwari & Herstatt, 2012).

There is an urgent need to have a standardized framework for defining frugal innovation. The same could aid in the proper identification and description of frugal innovation in the country. A significantly lower initial cost or purchase price, a lower total cost of ownership and minimal usage of material and financial resources are examples of frugal innovation (Neumann, Winterhalter & Gassmann, 2020).

Furthermore, with regard to the most recent implementation of thrifty inventions, there was great cooperation between government agencies, industry and research institutes in India. Equally important were everyday needs, education, healthcare and medical infrastructure, and the

migratory crisis. This period of need led to a flurry of innovations. The urgency of the humanitarian situation and the government's pragmatic attitude to crowdsource ideas are the two reasons for the prompt response. This time, innovation was being driven by humanitarian needs as opposed to the need for 'monetization' (Ganesh, Vemuri & Joshi, 2021).

In order to improve access to information and services, digital technology, communication, and cooperation organizations have become increasingly used. Innovations in technology include the development of PPE kits, ventilators, the Arogya Setu app and other products (Ganesh et al., 2021).

It is therefore reasonable to speculate that FI may have peaked in Covid -19. The existing infrastructure was close to breaking down, there were insufficient resources, and time was running out (Ganesh et al., 2021).

Byju's exemplifies frugal innovation in the online education sector, aiming to provide quality education to students throughout India. Byju's team employed innovative and resourceful methods to create an app that delivers personalized learning experiences and interactive video lessons. Byju's effectively minimized costs by utilizing technology to reach a wide audience. Through the use of mobile devices, they extended their platform to millions of students who lacked access to traditional classroom materials. Additionally, they employed Artificial Intelligence (AI) and machine learning algorithms to tailor a unique learning experience for each student, setting them apart from other competitors in the educational technology sector. Byju's also managed to reduce expenses by forming partnerships with schools. By collaborating directly with educational institutions, they were able to offer their platform to students at a reduced rate compared to marketing their services to individual families. This strategic approach enabled Byju's to expand their reach and deliver high-quality education to students who may have otherwise been deprived of such opportunities (NICMAR University, 2024).

In 2010, Ola entered the ride-hailing market in India as an online cab aggregator, despite facing competition from established players. Despite limited resources and funding, Ola utilized innovative techniques to gain a competitive edge over rivals. One of the standout features that distinguished Ola from its competitors was the introduction of cashless payments. This not only provided customers with a more convenient payment process, but also reduced the risk of theft for drivers by eliminating the need to carry large amounts of cash. Additionally, Ola implemented real-time ride tracking, allowing customers to monitor their ride and estimate its arrival time. This feature enhanced customer trust and improved the overall efficiency and reliability of the service. Ola's innovative approach proved to be successful, enabling the company to establish a strong presence in the market. Presently, Ola operates in more than 250 cities in India and has expanded its services globally to countries like the UK, Australia and New Zealand. Ola's frugal innovation has not only disrupted the traditional taxi industry but has also created employment opportunities for drivers and increased access to affordable transportation worldwide. The success of Ola demonstrates that frugal innovation can enable startups to thrive in highly competitive markets by offering unique and inventive solutions to customers. By prioritizing simplicity, resourcefulness and creativity, companies like Ola can not only survive but thrive in even the most challenging business environments (NICMAR University, 2024).

India has proven to be a leading market for frugal innovations, with the *Tata Ace* commercial vehicle developed by Tata Motors Limited serving as a prime example. Launched in 2005 at a significantly lower cost compared to other four-wheeled commercial vehicles, it targeted the world's largest four-wheeler market and established domestic in-house R&D. The technology of *Tata Ace* was

even exported to other South Asian nations of the likes of Sri Lanka and Nepal. Other notable frugal innovations from India include the *Tata Nano*, the world's cheapest car; Mac 400, a handheld electrocardiogram (ECG) device from General Electric; *Pureit*, a water purifier by Hindustan Unilever Limited; *Swach*, a water purifier by Tata Chemicals; and *Sakshat*, a tablet Personal Computer (PC) by the Indian government and public institutions (Khadria & Mishra, 2023).

Frugal innovations have made a significant impact across various socioeconomic sectors in India, addressing the fundamental needs of the population. Within the healthcare sector, there have been notable innovations both in general practice and specialized medical fields. In terms of general healthcare, frugal innovations like the *Tata Swach* water purifier, a cost-effective thermometer, and a compact and affordable portable ventilator developed by Philips have emerged. Orthopaedics, in particular, has witnessed crucial frugal innovations such as the *Cyborg Beast*, a 3D-printed hand prosthetic, and the Jaipur foot, an artificial limb made from rubber (Arshad et al., 2018). The inspiring real-life story of Sudha Chandran, a Bharatnatyam dancer who overcame the loss of her leg in a car accident through the Jaipur foot and went on to achieve success, was even adapted into the Telugu film '*Mayuri*'. Additionally, other noteworthy examples include the *Mohalla Clinics*, the *Aravind Eye Care Model*, and the *oxygen langar* (Arshad, Radić & Radić, 2018; Sharma, 2022).

In the education sector, a significant frugal innovation is the 'foldscope', a cost-effective and portable microscope crafted from paper. This breakthrough has enabled individuals from all walks of life to explore the intricate world of microbes and organisms. Furthermore, the implementation of the '*happiness curriculum*' in schools serves as another form of frugal innovation designed to enhance the school's educational practices and cultivate a joyful learning environment for students (Ganesan et al., 2022).

Crisis Leadership Models

This section discusses the most suitable crisis leadership models in the context of frugal innovations, across India and the world.

Situational Leadership Theory

The uncertainty of the global landscape worsens the trials and tribulations linked with leadership compared to 'normal' times (Ahern & Loh, 2021). Given the evolving nature of the domestic and world affairs, it could be said that no single leadership approach will work (Ahern & Loh, 2021; Francisco & Nuqui, 2020). Therefore, it can be presumed that a mishmash of diverse leadership styles would be desired as any crisis advances through its numerous phases (Ahern & Loh, 2021; Francisco & Nuqui, 2020). An effectual leader/manager during a crisis should display manifold capabilities and panaches as an intelligible collective. Therefore, the 'situational leadership' model assumes greater significance during any crisis. This crisis could range from personal challenges to social issues that often call for better utilization of financial and interpersonal resources. The situational leadership theory is focused on the tactic that a leader should get used to different situations and accordingly follow the twin strategies of adopt and adapt (Sims, Faraj & Yun, .2009; Vera & Crossan, 2004). The influential scholarship on situational leadership theory underscores the miscellany of leadership styles for any particular condition given the probability of success or failure (Hershey, Blanchard & Johnson, 1977). It acknowledges that there is no 'one-size-fits-all' leadership method to solve a crisis and encourages leaders to take an all-inclusive exertion rather than being concerned with any specific approach or style. Furthermore, it is constructed on the postulation of diverse sets of

responses to manage and plan the different phases of any crisis e.g., initial, middling and concluding stages (Dirani et al., 2020).

Implicit Leadership Theory

Although headship is often seen as what leaders can do and ultimately do, research in this area admits that leadership is a procedure of collaboration between leaders and their followers (Schyns & Riggio, 2016). Supporters such as employees are the central stakeholders for any leader, both during and after the crisis. They desire to be sustained by him/her, need support from him/her, want to sense his/her attention and sympathy, want to help him through the crisis (Joniaková, Jankelová, Blštáková & Némethová, 2021). In other words, ‘implicit leadership theory’ is concentrated around followers’ perception of leadership features (Caringal-Go, Teng-Calleja, Franco, Manaois & Zantua, 2021). In other words, they seek to distinguish the good from the bad leaders based on discernment of their leadership styles.

Frugal innovations, both in India and the world call for both situational and implicit leadership styles in order to sustain themselves. The necessity to adapt, adopt and perceive the situation and the leader are the minimal requirements for any frugal innovation to see the light of the day.

Linkages between Crisis Leadership and Frugal Innovations in India

Organizations that indulge in cost effective frugal innovations often reuse, repurpose, recombine and innovate under the worst of resource and time pressures. The end result of such activities is a more inclusive and sustainable future (Harris, Prabhu & Bhatti, 2020).

Under no other circumstance was a pressing need felt for frugal innovations than during the crisis of the proportions of Covid-19. Frugal innovations or *jugaad* formed the basis for various interventions in the health sector during crises of the likes of Covid, not just in India but all across the world. India turned its trains into intensive care wards which could move to keep pace with the spread of the virus (Harris et al., 2020).

Along somewhat similar lines, India’s textile clusters located in the Delhi-NCR and Tiruppur regions of Tamil Nadu started producing Covid gear in the form of PPE kits and N-95 masks. These units were earlier manufacturing garments (Harris et al., 2020).

In India, the quick grocery delivery apps of the likes of Blinkit, Dunzo and Zepto have changed the way Indian consumers shop for groceries. These apps evolved from frugal innovation in the grocery delivery services. With their fast delivery applications, Zepto, Dunzo and Blinkit have completely changed the grocery market by guaranteeing to bring necessities and groceries in a matter of minutes. Zepto’s business strategy focuses on subscription plans, data-driven inventory management and dark storefronts. Local retailers are paid commissions, and in-app advertising provides revenue. Dark stores and data-driven efficiency underpin Dunzo’s hyperlocal delivery and task management platform, which generates income from delivery fees and surge pricing during peak hours. Previously known as Grofers, Blinkit now provides in-app advertising, data-driven inventory management, subscription options, commissions from nearby businesses and rapid grocery delivery with dark stores. In a market that is fast changing, these creative models prioritize efficiency, speed and client convenience. The importance of the same was evident during the Covid crisis when millions of customers ordered food through these apps to sustain themselves during stringent lockdowns. This underscores the vitality of these apps for humans so far as access to food and other essential goods and

services during pandemic crises is concerned. Clearly, frugal innovations and crises leadership are closely related to each other.

Frugal innovations and crisis leadership models of situational and implicit leadership are thus, inherently related to each other. The need to ensure continual response to emergent challenges in a cost and resource- efficient manner is what binds frugal innovations to crisis leadership.

Conclusion

The concept of frugal innovation-led development has gained traction in recent years as a means to address the unique challenges faced by human populace --- primarily poverty and socio-economic inequities. In order to be successful, empowering local communities through frugal innovation and effective crisis leadership requires overcoming certain pre-existing challenges and limitations. Frugal innovation refers to the creation of affordable and sustainable solutions to complex problems, even with paucity of resources. By harnessing the power of innovation and creativity, local communities can overcome the barriers to development and improve their quality of life. Crisis leadership- induced frugal innovation offers several key advantages, one of which is its ability to provide cost-effective solutions tailored to the specific needs of local communities, in line with the situational and implicit models of crisis management. These solutions are often simple, accessible and easy to implement, making them ideal for populations with limited resources and infrastructure. For instance, frugal innovations like mobile banking services and solar-powered irrigation systems have helped India's rural communities gain access to financial services and improve agricultural productivity. Moreover, frugal innovation has the potential to empower local communities by fostering entrepreneurship and self-reliance. By encouraging communities to develop their own solutions, frugal innovation creates a sense of ownership and pride among residents. This sense of agency can lead to greater community engagement and collaboration, building social capital and strengthening community resilience in the face of adverse events, in line with situational and implicit models of crisis leadership.

Additionally, crisis- led frugal innovation can have a transformative impact on the economic development of local communities. By promoting sustainable and affordable solutions, it unlocks new opportunities for growth and prosperity. For example, the use of low-cost technologies like mobile phones and internet connectivity enables small entrepreneurs to access new markets, increase productivity and create employment opportunities.

This study reveals an intriguing perspective on nurturing an innovative environment. This approach involves facilitating the collective learning process as well as novel values, policies and systems to support innovation in order to achieve the Sustainable Development Goals (SDGs). While it is crucial to distribute the socioeconomic benefits equitably among those experiencing penury, this alone is often insufficient to effectively address the same. By focusing on Indian milieu, this research demonstrates the linkages between crisis leadership and frugal innovations. This is achieved primarily through the development of conducive entrepreneurial ecosystems and the promotion of innovative spirits in micro, small and medium (MSME) enterprises. Furthermore, frugal innovation takes into account the social, institutional and cultural contexts, making it a valuable contributor to the timely attainment of SDGs (Hossain, Park & Shahid, 2023).

Future Policy Implications

This study holds significant implications for managers seeking to meet crises effectively, emanating both from within and outside their organizations. With the increasing demand for businesses to contribute to sustainability, practitioners should explore the development of frugal innovations to cater to the needs of low-income customers. This presents an opportunity for managers to move beyond mere symbolic gestures of corporate social responsibility and make a tangible societal impact through frugal innovation. In this regard, the Sustainable Development Goals (SDGs) can serve as a foundation for product development. Unlike traditional products, frugal products have a tendency to spread from low-income to high-income markets, providing managers with a fresh perspective on product diffusion strategies. As customers increasingly seek sustainable products and face mounting legal and financial pressures, it is crucial for global multinational companies to avoid the criticism of developing products with excessive features and targeting them towards low-income customers in developing nations. On the contrary, frugal innovations focus on essential features that meet the needs of low-income rural customers while keeping costs low. However, implementing frugal innovations may require different supply chains, raw materials, skilled labour and a significant shift in organizational culture and managerial mindset. For instance, larger firms may consider adopting dual business models, one for conventional products and another for frugal products (Hossain et al., 2023).

To conclude, managers and practitioners in today's times must not overlook frugal innovations as a way to combat internal and external crises to any organization.

Statement of Research and Publication Ethics

No ethical issues are involved in the production of this manuscript.

Authors' Contribution Rate

The author prepared this article on her own.

Statement of Interest

The author has no conflict of interest with any person or organization.

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