An exploratory study in
Building Business Resilience

A Research study across Impact SME Sectors of the Indian Economy

By Raj Swaminathan

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Committee

Prof Sundar Bharadwaj, PhD & Chair of the Committee
Prof Rajendra Srivastava, Ph.D.
Prof S Arunachalam, Ph.D.

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“Bad Companies are destroyed by Crises,
Good Companies survive them,
Great Companies are improved by them”
- Andy Grove, Intel

“*You cannot overtake 15 cars in sunny weather,*
... but you can when it’s raining.”
- AYRTON SENNA

“It is not the strongest of the species that survive,
nor the most intelligent, but the
one most responsive to change.”
- Charles Darwin

Abstract

Resilience of an organization is increasingly being perceived as the key factor that enables businesses to bounce back from the inevitable 'curved-balls' posed by big challenges such as economic, environmental, digital, societal and health disruptions (as with recent pandemic) as also from the explosive advent & growth of new technologies, spiralling progress of, as yet, un-regulated AI developments, regulatory changes, geopolitical shocks and protectionism, and industry re-organization (including de-verticalization & dis-intermediation), sudden and rapid shifts in consumer preferences and behavior & many new categories un-expected competitors.

The research focuses on how Organizations build Resilience. The study will follow the classic definition in the literature and define organizational resilience as a dynamic capability and 'ability to effectively absorb, develop situation-specific responses to and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival' (Lengnick-Hall et al., 2011). The study adopts the theory-in-use approach and undertakes a series of qualitative interviews of senior management across industry sectors varyingly impacted by the current and prior disruptions. The objective being to study the managers' approach to Product-Market strategies and associated Organizational strategies (a) before disruption (b) during disruption and (c) immediate aftermath of disruption and their absorptive (demonstrating redundancy, robustness, agility) and adaptive paths taken (demonstrating resourcefulness, adaptability, flexibility) as theorized in the evolving literature so far, to understand HOW resilience is being built, particularly so in the more critical and vulnerable SME sectors. The study has analysed both defensive-sector industries as in IT, Healthcare/Pharma as also those more severely impacted as in Financial Services, Manufacturing, Energy, and others comparing strategies adopted by big and small firms impacted by differing disruptions, varying by severity levels, both internal and external, with varying degrees of predictability.

Key propositions have thus been developed as antecedents to strengthening and gaining business resilience in the key Product/Market area of organizational strategy and functioning.

In an increasingly VUCA world, this study aims to add to the body of knowledge to build more resilient and sustainable business over the long term and provide analysts, investors, practicing managers & business leaders and academicians an additional toolkit to evaluate businesses over and above the conventional lagging indicators of standard financial metrics.

Introduction and Motivation for Research

Corporate performance slumps and rapid deteriorations are frequent as year-to-year volatility of S&P 500 companies increased by over 50% over the last four decades. This, despite the much-heralded economic boom and prosperity across domains and industries and the significant evolution of new industries born of newer technologies.

More importantly Small and Medium Enterprises are particularly vulnerable despite being a key driver of economic prosperity and more particularly, employment. According to an OECD Report, SMEs contribute to up to 45% of total employment and up to 33% of GDP in emerging/growth economies, The challenges faced by SMEs, especially in growth markets like India are many as summarised in the table below: -

Difficulty faced	Problem & Challenge
SMEs in developing and growth markets often have difficulty accessing finance, due to lack of adequate collateral, high interest rates & complex lending procedures	Access to finance. (Beck et al., 2005)
Limited distribution channels, lack of brand awareness, inadequate Sales & Marketing investment & resources.	Access to markets (Doern, 2009)
Financial support, compliance overheads, tax incentives, and regulatory relief. These can make it difficult for SMEs to compete with larger companies	Regulatory & Policy related challenges.(Blackburn, 2016)
Inability to attract right talent, difficulty finding skilled workers, due to a lack of specific and specialized training programs etc	Skills gap (Nolan & Garavan, 2016)
Larger firms with more resources can compete with lower prices	Competition from large firms (Vikalpa)

Dark Clouds with SMEs: - The challenges with SMEs seem particularly exacerbated when impacted with serious disruptions as noted during the pandemic: -

Financial Crunch, decline in demand, liquidity crisis, tightening lending etc	Business Standard (June1,2020)
Supply Chain disruptions leading to closure of factories, hampering supplies and movements of raw materials and goods	Economic Times (Aug 11, 2021)
Labour shortage and migrant workers exodus	Reuters (May 27, 2020)
Digital Transformation gap	Nasscom (Sep 2020)
Investment hesitancy – Uncertainty & Fear	Inc42 (July 2020)

The Silver lining: - However there seems to emerge a clear silver lining with larger companies especially, learning to develop resilience – to survive and thrive through challenging times. According to CBDT data #Companies in Rs 500Cr+ range grew from 413 in FY20 to 554 in FY21 despite pandemic disruptions. These companies grew by 29.6% in FY21 compared to the previous year fall of -2.1% and pre-pandemic year growth of 15.1%

The New World: - The speed and acceleration of technological changes and their adoption at scale (for eg. the technology led UPI based ubiquitous Indian payments system), the disruptions in markets led by geo-political tensions, the impact of globalization (or protectionism) all pose significant risks and competitive pressures but also new revolutionary opportunities. These are compounded by challenges of different kinds - financial crisis, terror attacks of all categories, natural disasters etc. The revolutionary advances in game-changing technologies like EV, Robotics, AI, Cloud computing, IOT and 3D printing are revolutionizing existing modes of Manufacturing, Supply Chains and even Business Models in un-imaginable ways threatening the very survival of organizations but also, hopefully, providing tremendous new opportunities for re-invention and growth. The McKinsey Group recently observed that compared with the Industrial Revolution, change is now far more dramatic and is happening 10-times faster than earlier and at 3000 times the impact. At a recent Citibank global conference, their CEO remarked that rather than the demise of globalization, building of resilience will call for diversification amidst globalization projection opportunities for trade flows and economic prosperity.

In the aftermath of the global pandemic the resilience of an organization is seen as the key factor that enables businesses to bounce back from the inevitable ‘curved-balls’ posed by the above significant challenges as companies wade through different challenges, big and small, through its growth journey. Resilience studies till recently defined this key organizational strength as the 'ability to effectively absorb, develop situation-specific responses to and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival' (Lengnick-Hall et al., 2011).

The insightful article from McKinsey on 'Risk, resilience and rebalancing in global value chains' (Lund et al., 2020) very succinctly classifies the disruptions faced by countries and the economies. They analyse the disruptions by monetary magnitude of anticipated shock versus the ability to anticipate from none to a few days and many months/years. Interesting they also project the disruption durations (from a few weeks to many months) along with their expected frequency identifying that disruptions >2months can be expected nearly every 5-years. They point out that at the lower end of the ability to anticipate (in none/days/weeks) we have thefts, cyber-attacks, supplier bankrupts and other man-made disasters while we should be in a better position to anticipate those with longer lead times as in government regulations, localized military conflicts etc all of which have low-medium levels of monetary impact. At the higher end of monetary impact, and most importantly with higher ability to anticipate (foreseeable disruptions) are extreme financial crisis, pandemic, and global military conflicts amongst others. The big call is therefore for heightened risk management vigil and build-up of resilience to lead through challenging times that are inevitable through the journey of businesses.

What factors then constitute Organizational Resilience that enables businesses to survive unexpected challenges? The interesting Research question then is that while Organizational Resilience helps businesses to absorb shocks and bounce back, does it also help businesses to not just survive but thrive and enable Growth?

The other important question was that while well run successful and highly profitable firms are nurtured and built for efficiency – from the financial structures (as dictated by their investors and markets), supply chains, outsourcing of all non-core activities, stringent process focus and their very business models – are they simultaneously designed for Resilience with its possibly diametrically opposite needs for slack resources (financial & human), absorptive capacity, flexibility and agility as their key coping requirements? Are the very drivers of Efficiency and Resilience significantly different and are there trade-offs that can compromise long-term survival and growth?

This research study differentiates between two dimensions of organizational resilience, namely – Resilient Leadership (Chamorro-Premuzic & Lusk, 2017; Everly, 2011; Seligman, 2011), Team Resilience (Stoverink et al., 2020) and Business Resilience. While Resilient Leadership will require a focus on the strong and inspiring leadership that needs to be provided to the organization by its Leader and take forward the thinking and research over the years, the study of Team Resilience will focus on studying how Team Dynamics cope with Resilience needs across different Team Structures and compositions. The broader question of Business Resilience then boils down to how the Leadership and Organizational Teams need to build a Business that not only bullet-proofs itself from shocks but is also able to future-proof itself through multiple conscious tactics and strategies.

A more contemporary research article from McKinsey (Boudet et al., 2023) on how Marketing can drive Resiliency in uncertain times, calls for more growth-oriented thinking and argues for a more investor oriented approach for next-generation growth drivers – they plead for 'Marketing should be at the table, but not the meal'!. The article also argues the case that companies that drove growth during tough economic times performed far better in the following decade.

Another recent article from McKinsey (https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/survival-through-purpose-how-ukrainian-businesses-endured-amid-extreme-uncertainty**)** highlights an issue 'that is not commonly discussed in traditional resilience planning – **"**the focus on building resiliency in supply chains and navigating geopolitical shifts over the past few years has reduced the attention management teams give to revenue diversification". In a survey of over a hundred Ukraine business leaders, decreased demand for products and services was considered the topmost challenges of war.

With all the above background, this study aims to add to the body of knowledge to build more resilient and sustainable and growth business over the long term and provide analysts, investors, practicing managers & business leaders and academicians an additional toolkit to evaluate businesses over and above the standard conventional lagging financial metrics.

Literature Review: -

The review of Resilience studies in the literature produced a broad spectrum of papers on resilience covering the gamut of issues concerning the VUCA world we are in – from natural catastrophes (flood, earthquakes. Etc) to environmental challenges to more recent studies on Business and organizational resilience.

Resilience research has so far largely developed in the following streams:

a) External challenges and Organizational responses to them.
b) Employee capabilities and strengths to support building of resilience.
c) Business Models & their adaptability to enhance resilience.
d) Supply Chain risks and challenges, widely perceived as the big resultant impact of external disruptions.

Much of the work have also tended to be conceptual. The two tables in the adjoining pages - the Literature Review table describing the broad themes of the key papers' studies (Table-1) and a second Summary Table which summarizes the key themes and its elements (Table 2) – attempt to classify the areas of research, the identification of what constitutes resilience, the context, key constructs and antecedents, when resilience matters, how the capabilities are built and the challenges thereon and how it potentially impacts business outcomes. The studies so far have largely focused on developed markets (US/Europe) and largely survey/questionnaire driven.

Particularly useful were the two meta-analysis papers which summarizes some of the key learnings across a decade+ of work in this rapidly and evolving subject area of critical importance. Following the two tables is a more detailed note on the evolution of a framework for studying resilience as it has evolved over a period.

Literature Review Table (Table-1)

Research	Antecedents	Moderators	Outcomes	Industry Type	Market Studied	Study, Design & Data
(Iborra et al., 2019)	-Ambidexterity -Strategic Consistency	Firm-size	-Firm Survival -Sales Recovery	Mfg Industries	Spanish SMEs	2765 manufacturing companies, Post GFC, Secondary Data Analysis
(Sheffi et al., n.d.)	-Redundancy -Flexibility -Control Systems -Culture	-Disruption Probability -Vulnerability consequence -Competitive Position Responsiveness	Firm Performance	Across Industries-supply chain dependent	US	35-MIT associations + identified Cos with supply chain disruptions Time-Period – 2000-02, Post 9/11 crisis. Telephonic surveys, in-depth interviews & conferences
(Gunasekaran et al., 2011)	-Managerial characteristics -Access to Capital -Technology -Supply Chain Integration	-Globalization -Market Access	Firm Performance	Across industry-mostly mfg	SME is a state of US	Sample: 400/40 Time-Period: - 2010 Survey Questionnaire
(Ambulkar et al., 2015)	-Supply-chain disruption orientation - Risk Management Infrastructure	-Resource reconfiguration ability -Firm-size/Exp - Extent of Disruption	Firm resilience	Mfg/Retail/ Logistics oriented	US	Sample: -200firms, 300execs, Time-Period: 2011-12 Survey responses
(Li et al., 2017)	Supply Chain resilience -Preparedness -Alertness -Agility		Firm performance	Wide cross-section -20 industries	Mid-Western state in US	Sample: -77 firms Time-Period: - 2015-16 Survey response
(Reinmoeller & Van Baardwijk, 2005)	-Knowledge Management - Exploration - Entrepreneurship - Cooperation (4 strategies for building Resilience)		Diversity and Dynamic Balance	Across Sectors-Many global 500	Dutch – listed on Amsterdam Stock Exchange	Sample: - Top 10 sustained superior performing cos of 231 Dutch cos. Time-Period: - 1993-2002 Secondary data analysis-Annual reports/other corporate docs linked with 100 interviews of senior execs
(Richtnér & Löfsten, 2014)	-Cognitive, Structural, Relational, Emotional (Org attributes to build resilience)		Creativity	Technology Firms	50-500 staff firms in Sweden	Sample 329/99 Devt. /R&D / Product Mgrs. & 50-500 staff firms Time-Period 2010 Questionnaire Survey
(Akgün & Keskin, 2014)	-Competence Orientation - Unscripted agility -Practical habits -Behavioural preparedness -Resource Networks	-Product Innovativeness -Extent of Turbulence	Firm Performance	Tech & Innovation oriented firms	Turkey	Sample: 276 firms Time-Period-2012+ Survey

(*The Emerging Resilients: Achieving 'Escape Velocity' | McKinsey*, n.d.)	Balancing -Growth - Margins - Optionality		Firm performance	Across all sectors	US & European companies	Sample: 1500 companies Time-Period: - 2008-2022 Secondary Financial analysis using Altman-Z score
(Bandyopadhyay, 2006)						Adapted and improved Altman-Z score paper
(Buliga et al., 2016b)	Business Model Innovation, Ambidexterity, Regulatory focus theory					Conceptual Paper
(Gilbert et al., 2012)	Two routes to resilience: - -Reposition Core - New Model - Shared Resources					Key Conceptual Paper
(Hamel, 2003)	Challenges of Building Resilience – conquer denial, value variety (experimentation), liberate resources, embrace paradox		Answers – Why Resilience Matters?			Key Conceptual Paper
(Unruh, 2016)	Interdependencies					Key Conceptual Paper
(Vogus & Sutcliffe, 2007)	Affective, Cognitive, Relational & Structural mechanisms					Conceptual Paper
(Amit & Zott, 2010)	Content, Structure, governance, value creation/ value capture -through recombining existing resources					Key Conceptual Paper
(Suarez & Montes, 2020)	Organizational Resilience -Scripted Routines - Heuristics - Improvisation	- Best when? - Context	-Firm resilience -Survival			Conceptual Paper
(Lengnick-Hall et al., 2011)	Key Meta-Analysis Paper-developments & gaps in mgmt. research on Resilience					Conceptual Paper-Meta Analysis of 229 papers 1997-2014
(Conz & Magnani, 2020)	Dynamic Capability Framework-Absorptive & Adaptive Paths	-	-	-	-	Conceptual Paper-Meta Analysis of 66 selected papers 2000-2017

Summary of Literature review across Themes

Antecedents	**Business Model Innovation**	**Challenges**	**Measuring Resilience**	**Product Innovation**	**Risk Management**	**Framework & Meta-Analysis**
Ambidexterity	Conceptual Framework	Cognitive	Altman -Z	Impact on Resilience and Firm Performance	Impact on Customer, Product, Collaborative Innovation and Org Forms	Temporal studies & Dynamic Capabilties
Strategic Consistency						
Flexibility	BMI through resource recombination	Strategic	Modified Alt-Z		Risk Management Infrastructure - Reporting, assimilating & Utilizing	Absorptive - Redundancy, Robustness, Agility
Redundancy						
		Political				Adaptive - Resourecfulness, Adaptability & Flexibility
SME challenges	Rebuild Core while reinventing					
Interdependence		Ideological				
Affective, Cognitive, Relational & Structural						
Resource recombination						
Routines &Improvisation						
Dynamic Capabilities in Supply Chain -Preparation, Alertness, Agility						

Key Literature Review - Meta Analysis, Conceptual & Research Study Papers

In a landmark meta-analysis paper, 'Resilience in Business and Management Research: A Review of Influential publications and a Research Agenda' (Linnenluecke, 2017) studied 339 papers between 1997-2014. To summarize the paper concluded that: -

(a) Resilience has been thought very differently with different definitions, theories and understanding across various studies

(b) Studies across these streams have not yet delivered insights on generalizable principles.

(c) Resilience has been conceptualized and operationalized very differently with few details on identifying or measuring resilience to cope with future challenges and disruptions.

(d) The literature seems to suggest varying and apparently diametrically opposite approaches to how organizations can build resilience. There clearly seems to be widely different arguments with the need for organizational stability on the one hand (risk management, consistency, processes, control, etc) and the diametrically opposite requirement for change (redundancy, experimentation, and innovation etc). Even on the outcome side, there is clearly widely different views between achieving organizational reliability vs delivering innovation, adaptability, and flexibility.

The above suggests areas for research around achieving the right degree of response 'mix' required to building resilience for not just survival but growth too.

Interestingly studies so far have focused retrospectively on 'how resilient' organizations were during a certain situation at a certain point in time. However, research has "*yet to identify predictive factors that promote organizational resilience for future conditions*" - an important assessment in the direction for future research that has guided and prompted my study.

In a recent article on 'A dynamic perspective on the resilience of firms: A systematic literature review and a framework for future research' (Conz & Magnani, 2020), the authors studied 66 selected papers on the subject between 2000-2017. Through inductive content analysis they proposed a conceptual framework and suggested a theory of a dynamic perspective to the resilience of firms. They contribute to the current literature through viewing resilience of a firm as *a process in time*, explaining the capabilities needed to be resilient before, during and after the shocks. In effect their framework views: -

(i) resilience as the capability of a firm that evolves in time.

(ii) views resilience as a dynamic process consisting of the *absorptive and the adaptive* paths.

(iii) Mentions a set of capabilities required to be successfully resilient at different stages of the two paths.

The studies observed resilience under 4-phases: -

- Time before the disruptive event occurs calling for capabilities of the firm to be alert, viewing resilience as a pro-active capability.
- Time during a disruptive event occurrence calling for the organization's abilities to withstand and adapt to disruptions.
- Time after the disruptive event has occurred, viewing the organization's capabilities to survive and respond to them effectively.
- Finally, as a dynamic attribute calling for a combination of capabilities at different points in time.

The diagram below (Fig-1) depicts the two paths thought through so far as pathways to build resilience. Redundancy, Robustness and Agility are defined in the literature as the key attributes in the absorptive path. The attributes sought for in the adaptive path are Resourcefulness, Adaptability and Flexibility.

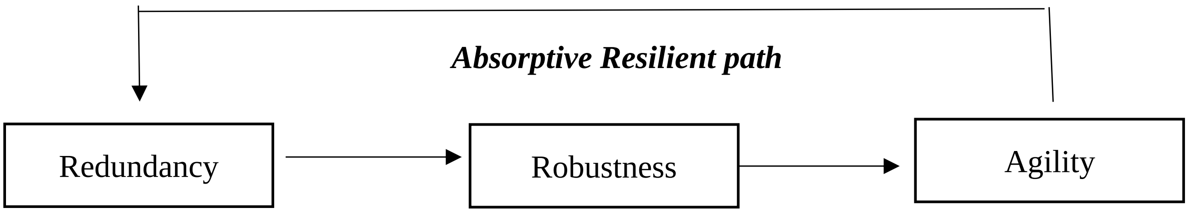
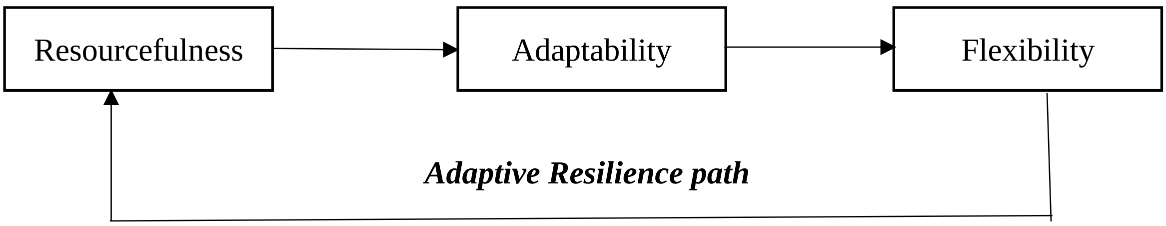


Fig-1

The Resilience of Firms – The Conceptual Framework



Core Capabilities for being Resilient: -

The Absorptive Path: - Redundancy, robustness, and agility are thus the essential characteristics of the absorptive path. Redundancy referring to the organization's readiness and ability to keep resources in reserve- Financial liquidity, safety stock, backup sites etc. Robustness refers to the capability to resist shocks and the organization's inherent strengths to reduce its vulnerability. Agility refers to the organization's inherent and ingrained ability to provide a speedy response when dealing with its disruptive challenges while maintaining its strategies, processes, and structures.

The Adaptive path: - Resourcefulness, Adaptability and Flexibility are the key capabilities here. Resourcefulness referring to the ability to gather and raise different, diversified assets and resources – financial, infrastructural, people, technological, etc. Adaptability referring the organization's capability to adjust its response and internal processes to changing external conditions. Flexibility is the capability of rapid decision-making, speedy communications, and fast learning to quickly adopt new routines, strategies and methods to fast changing external and environmental conditions.

How can we then translate these Building blocks of Resilience into executable areas of Business Strategy that de-risks the business of the future by providing elements of a shock absorber, but most importantly enables the businesses to readjust, re-calibrate and course-correct to thrive in a new tomorrow by continually delivering customer/market value and financial value to shareholders?

In closing the paper suggests avenues for future research along with some suggestions; -

a. Study across time: - The HOW of Building Resilience which is focus of the current study. What strategies are appropriate before the disruption, during the disruption, and post the disruptive event – suggesting studies on how the initial build-up of reserve/slack resources and their types/capabilities, analyse the absorptive/adaptive capabilities of organizations in terms of robustness/adaptive capabilities to withstand shock and their relationship with being able to respond with agility/flexibility post disruptive events.

b. Explore Capabilities for Resilience: - What organizations capabilities need to be built and how?
c. Exploration of outcomes: - Suggests study on whether absorptive or adaptive approach is better suited for sustainability or greater competitiveness. Also suggests research studies on whether resilient firms (as identified) do perform better than ‘non-resilient’ firms.

A few further contemporary papers studied as part of the review of current literature provided additional insights.

In the ‘Quest for Resilience” (Hamel, 2003), the author laments that “the World is becoming turbulent faster than organizations are becoming resilient” and suggests two approaches to understanding Organization challenges to building resilience:-

Understanding the Challenges: -

- The Cognitive Challenge – The ability to stay free from denial and arrogance over past successes.
- The Strategic Challenge – Resilience requires awareness and identification of plethora of alternatives for waning strategies.
- The Political Challenge – The ability to divert resources from yesterday’s products and programs to tomorrow’s anticipated needs.
- The Ideological Challenge – The ability to think beyond established ideals of optimization, operational excellence, and execution as paramount.

and suggests ‘why renewal lags decay’ by asking key questions and suggesting potential identification and potential measurements for the same: -

- Replication: - Are the current strategies losing their competitive advantage and distinctiveness and therefore prone to easier imitation?
- Supplantation: - Are the current strategies in danger of being replaced by newer technologies or business models?
- Exhaustion: - Are current strategies encountering tepid growth and markets saturation?
- Evisceration: - Are customers’ buying power killing our margins?

Continuing on the Innovation approach to building Resilience, the paper 'The link between (Innovation) Diversity and Resilience' (Reinmoeller & Van Baardwijk, 2005), the authors provide useful insights on how resilient organizations strive for a dynamic balance in their innovation strategies. Firms, according to them, switch between using and creating Internal strategies of leveraging in-house knowledge and creating through R&D strategies of exploration. Likewise, firms also could exercise the options to go external either through using partnerships and alliances as a mechanism for external co-operation or create new ventures and progress on an entrepreneurial route.

As relevant is the practical paper, 'Building Organizational Resilience' (Suarez & Montes, 2020). The authors suggest 'Organizational routines' that provide 'muscle-memory' as very apt for situations when environment is relatively stable and the territory very familiar. However, the authors suggest 'rule-of-thumb' heuristics more apt in challenging situations when speedy decisions are required in an environment where decision makers understand the problems and the underlying assumptions. However, the authors feel rapid improvisation is the need of the hour when disruptive challenge exposes the organization to unchartered territory and high degrees of unknowns when key assumptions do not hold, and constant experimentation is necessary (classic example being the recent Uttarakhand tunnel collapse).

The paper on 'Firm's resilience to Supply Chain Disruption' (Ambulkar et al., 2015) studies the two key antecedents to Supply Chain Resilience – Resource Re-configuration capabilities and Risk Management infrastructure. In a manner of speaking, Product-Market disruptions provide probably a complementary and 'mirror-image' for study. In what way are the antecedents and challenges different and what are the similarities that this paper can inform the current study? What Resource Reconfiguration options can Businesses deploy in Product-Market arena to increase Firm resilience to Disruption? What Risk Management Infrastructure Capabilities and inputs are relevant for both Absorptive & Adaptive stances?

A recent paper 'Managing Supply-Chain Aspect of Covid-19 Pandemic in India (Ray, 2020) addresses the four challenges faced during the disruption - forecasting surges in demand, identify best possible raw material and finished goods movement options, reduce the risk of stockouts or poor-quality supplies and mitigating predatory and opportunistic pricing by hoarders.

Z-Score as a Predictor of Resilience**: -** Another key paper that significantly informed the current research study is the article (The Emerging Resilients: Achieving ‘Escape Velocity’ | McKinsey, n.d.) which claims that the Altman Z-Score, well known as a predictor of bankruptcy, turns out to be a strong indicator of post-downturn market performance. The Z-Score, the paper noted, highlights three outstanding attributes of resilience: margin improvement, revenue growth, and optionality (retained additional optional investment opportunities).

Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5 (X1=WC/Tot Assets, X2=Retained Earnings/Tot Assets, X3=EBIT/Tot Assets, X4=Mkt Value of equity/Bk Val of Tot Liab, X5=Sales/Tot Assets).

However, as it is considered highly improbable for young SMEs to score highly on the three components of Z-score viz; revenue growth, margin growth and optionality – therefore this possibility of detecting resilient businesses amongst SMEs was not considered.

Two further significant and landmark articles were greatly relevant in approaching the study of Business Resilience.

Sensemaking (Weick, 1995) being referred to as the process of creating meaning from evolving, ambiguous or uncertain situations and as a cognitive process that helps individuals and organizations make sense of the happenings. In the context of business, sensemaking can be used to build resilience by helping organizations to:

- Identify and understand threats and risks. Once the threats and risks have been identified, sensemaking can be used to develop strategies for dealing through them.
- Adapt to change. Sensemaking can help organizations to adapt to change by helping them to understand the nature of the change, its impact and the options for responding to them.
- Bounce back from setbacks. Even the most resilient organizations will experience setbacks periodically. Sensemaking can help organizations to bounce back by helping

them learn from the challenge, identify what went wrong, and develop strategies for future disruptions.

Dynamic capabilities (Eisenhardt & Martin, 2000; Teece et al., 1997) as the ability of an organization to adapt to change and create new potential opportunities. They are essential for building business resilience, to respond to shocks and disruptions, and to also emerge stronger from them. The papers mention three key dynamic capabilities that are important for business resilience:

- Sensing: The ability to identify and understand threats and opportunities in the environment.
- Seizing: The ability to take action to exploit opportunities and address/manage threats.
- Transforming: The ability to adapt to change and create new business models, new markets or new products and revenue streams possibly as amplification strategies.

Gaps in Literature and Opportunities for Research

The above theoretical background and empirical studies so far provide a strong framework for further research contemplated and guides well on the 'gaps' that need deeper understanding, which if researched on across industries and contexts can provide strong inputs to practitioners and academics on the Study of Resilience.

Key Gaps in Current Research literature that current studies expect to address: - (Table-2)

Current Research Literature	Gaps in Current Research Studies
Much of the extant literature is either through Sampling Surveys or secondary data analysis. Literature and research studies have largely focused on developed countries – US/Europe. Here too the studies have been more with static constructs without the evolving challenge being adequately studied. Studies hitherto have focused significantly on Supply-Chain challenges.	Qualitative Rich Case Study of diverse set of companies across sectors to understand HOW Resilience is really built. Specific challenges of SMEs in emerging markets like India (who form a major part of the economy) to cope with significant disruption – Before, During and in the immediate aftermath. This research study dives deeper into product/market challenges.
Studies restricted to isolated focus on innovation, resource configuration, supply channel strategies etc The trade-off between efficiency and redundancy is not explored sufficiently.	How are the theoretical principles translated into integrated practical strategies in building resilience. The Pandemic specifically posed a disruption which affected every company and the eco-system for a significant long period. Hence provides a rare research opportunity to study the different coping and response mechanisms.
No comprehensive attempt to offer a measure of Resilience. Recent attempt by Consulting Organizations	The study will gather insights into measures of resilience by comparing findings across business-sizes and industries. Seeks to propose a qualitative measure of Resilience.

Much of the literature on resilience focuses on external threats, staff strengths, need for innovation, risk management, adaptability of business models, and design principles that reduce supply-chain vulnerabilities and in developed countries.

The study will focus on the following: -

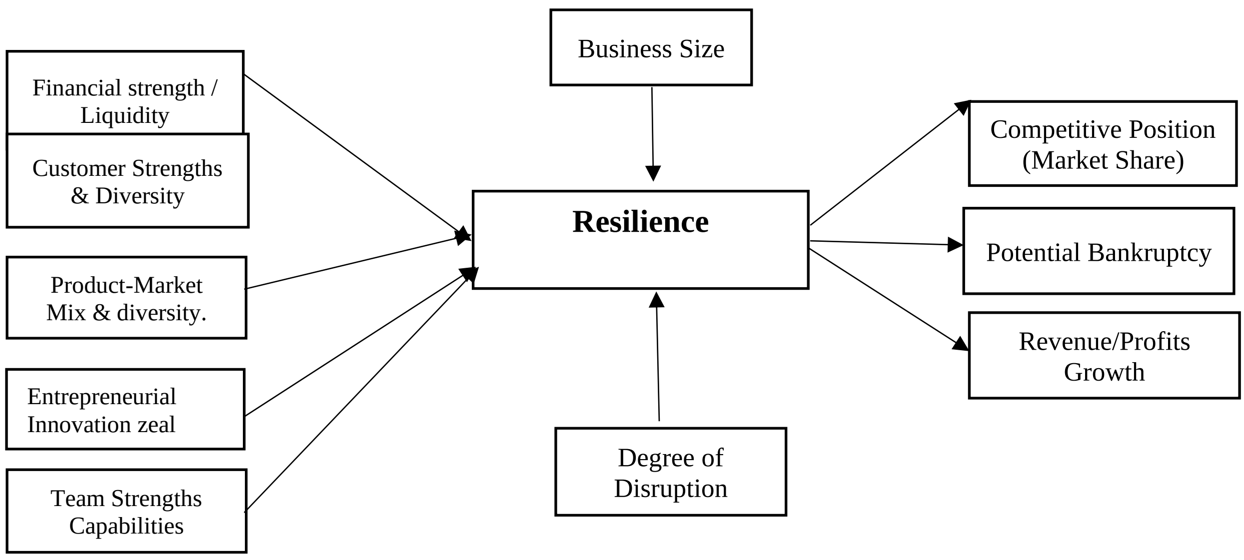
a) The Context: - Are some attempts at building resilience more relevant, given the nature of the company, the domain, its industry and/or the disruptions it may be facing.
b) Building: - What capabilities bring about resilience? Are there tradeoffs?
c) Measuring: - How do we know if an organization is resilient prior to its performance through disruptive circumstances

A significant gap is the understanding of the current product-market strategies that drive stronger business resilience especially in emerging markets like India. This is particularly relevant for the more vulnerable SME sectors who are more quickly affected and adversely impacted by the environment and other shocks.

A Conceptual Model: -

The conceptual model focuses on the representative predictors (illustrative for now) for Resilience on the absorptive and adaptive paths carefully chosen after representative case-study discussions with polar extremes across Financial Services & Technology firms – the first significant affected, as surrogate for the industry and economy itself, and the other affected by global turbulence with variations across countries and markets.

<u>The Conceptual Model (Fig-2)</u>



Key Research Questions

The key research questions that emanate then then are: -

1. What constitutes Organizational Resilience?
2. How can Resilience be built?
3. Can Organizational Resilience help businesses to absorb shocks and bounce back, and can it also help to thrive and enable Growth?
4. Can business be built for both resiliency and efficiency, or can businesses built for efficiency be resilient?

The important managerially relevant question then is that while well run successful and highly profitable firms are nurtured and built for efficiency – from the financial structures (as dictated by their investors and markets), supply chains, outsourcing of all non-core activities, stringent process focus and their very business models – are they simultaneously designed for Resilience with its possibly diametrically opposite needs for slack resources (financial & human), absorptive capacity, flexibility and agility as their key coping requirements? Are the very drivers of Efficiency and Resilience significantly different and are there trade-offs that can compromise long-term survival and competitiveness.

Research Methodology: -

Case-Study Research: -

A grounded theory-in-use case-study approach was planned to be adopted for the qualitative research work (Zeithaml et al., 2020) and the study of business resilience and its adoption, planning and coping strategies in practice. Given the lack of literature in this area, this approach was considered appropriate. Interviews with industry experts and Owners/CEOs of SMEs were conducted in an iterative fashion.

The current pandemic and ensuing disruption/crisis brought upon individual companies, entire industries as well as their supply-chains (both domestic and global), provided a unique and rare opportunity (unfortunately) of studying the phenomena as it occurs at individual firms and their leadership behaviour, their resilience shown in preparedness, facing-through-the-challenge, and response actions through the 3-time ‘zones’. In-fact we now really have multiple disruptions (i) the pandemic (ii) the impact of Russia-Ukraine conflict on Global supply chains and markets (iii) geo-political stresses with China causing supply chain actions and disruptions (iv) protectionist measures by many countries (v) Potential escalating Israel-Hamas wars…

The context of the disruption in the financial services industry, the effect of the turmoil on customer incomes and their credit behaviour, the regulatory forbearance measure, the impact on the firm its people, its stakeholders and its own business performance based on its current business models is very different from the challenges in the more defensive and global IT Services industry or the more wide-spread FMCG industry with its spread across urban and rural population.

The approach used consisted of the following parts: -

Part I: -Focus on the SME sectors of the Economy – the more vulnerable and the more impacted

- Ensure coverage of Defensive sectors (IT and Healthcare) and Impacted Sectors (Manufacturing, Financials, Hospitality, Energy)
- Compare & Contrast Organization responses and resilience build-up efforts across sectors and nature of disruption (internal vs external).
- Absorptive & Adaptive Strategies – learnings for the Future
- Impact of Govt regulations, govt intervention & Support

Part II: -Compare with select larger companies across domains and sectors.

- Preparing for challenges, Coping through disruption and post-Disruption strategies

Part III: - Study Financial Performance Trends across the Period (2018-2023)

- Impact of Resilience strategies on Financial Performance across SME & Larger firms

The process thus was to study: -

- Across representative firms across polar extremes of possible ‘Resilient’ - theoretical selection
- Identify appropriate and suitable candidate firms and obtain agreement from respondents.
- Develop outline interview questionnaire to understand firm behaviour and actions.

- Explore strategies and actions taken by Firms across Product/Market Strategies
- Interview across key senior team members across key functions.

Before commencing on the formal full-fledge study, two initial pilot studies were conducted to broadly understand the 'terrain-on-the-ground' and likely constructs.

Pilot Case Studies

Leading Food Delivery E-commerce company) – Fig 3

An initial pilot qualitative study was undertaken with the key members of a leading On-Line food ordering and delivery platform company with pan-India presence and a specialised Finance company focused on MSME Finance to study their coping strategies thru disruption challenges. Key observations and findings from the Food-delivery company study were: -

- Collapse of Consumer demand beginning early March - Significant worry and anxiety with customers around safety of delivery
- Drastic fall in revenue/profitability
- Significant demonstration of Business Agility and Flexibility
- Leadership actions during the trying periods around manpower rationalization and reallocation.
- Prior philosophy of constant experimentation & innovation provides the business with a strong product innovation response.
- Technology capability/strengths enable business to significantly re-pivot and come out with an entirely new business category and redefine their business entirely.
- The unexpected business challenges and disruption provided the sudden un-anticipated trigger to dive-deep into their latent capability and innovate.
- The new business category launch from conceptualization to launch was achieved in a matter of 2-3 weeks!
- While the launch was rapid and response quick, the insight gained was that the deep ingrained philosophy of constant experimentation and innovation which enabled the business to demonstrate the needed resilience – to not just survive but thrive!
- If the new business takes off as planned, it has the potential to be many times larger.

Besides, it could be the model for many more new offerings on the core platform having gained the needed experience through this transition.

Framework of Analysis of Firm response through Disruption

New-Age large Food-Tech firm - Challenges faced, Impact and Response (Fig-3)

- Collapse of Consumer demand
- Significant anxiety with customers around safety of delivery
- Drastic fall in revenue/profitability

Before Disruption → During Disruption → Post-Disruption

Before Disruption

- Constant experimentation provides the business with a strong product innovation response.
- Technology Capability

During Disruption

- Significant demonstration of Business Agility
- Leadership actions during the trying periods.
- Re-pivot to an entirely new business category -Grocery, Pharma delivery
- Trigger to dive-deep into their latent capability and innovate.
- Rationalized staff, Reassigned roles, released staff to new business category.

Post-Disruption

- New business has the potential to be many times larger than even the original business!
- Model for more such innovations

Second Pilot Case Study – Leading MSME Non-Banking Finance Company-(Fig 4)

- Qualitative study with the senior Leadership Team of a leading MSME Finance business with pan-India presence to study their coping strategies thru disruption challenges:
- Interviewed the CFO, CIO & Head Ops, and National Sales Head of the Business – recorded Video interviews and obtained transcripts used for analysis.

Key Observations and Findings: -

- Different customer-segments were impacted vastly differently and hence required vastly different approaches.
- Key Proactive strategies that helped – Significant customer Communication through all channels / Reach-out to Employees and families too.
- Prior efforts in close relationships with customers helped in customer re-assurance / trust /credibility of actions.
- Confidence boosting measures to assuage market and customers – Loan restart/revival, Options for Step-down
- Benevolent but rational HR actions – Hiring Freezes, Re-structured comp plans, Appraisals postponed, Rationalization and reallocation of staff, voluntary surrender of employee leaves – Service continuity maintained.
- Proactive prior investment in technologies to enable tablet-driven anywhere loan under-writing and processing served as effective BCP.
- Continued investments in product innovations driven by need of the day – Scorecard driven under-writing; Cash-flow driven models.
- Institutionalized approach with smarter risk/innovation practices – regular experimentation, monitoring, and feedback-loops.
- Previous disruptions in the Financial Services sector – Collateral-free Business Loans/Micro-Finance fiasco, Dairy Business challenges due to large portfolio exposure, De-Monetization challenges, GST impact on un-organized sector – triggered business to move up the value chain, increase ticket sizes and understand customer-business cash-flows better.
- Key competitive disruptions likely – business to innovate faster – Rapid digitalization for market reach, FinTech's aggressive and nimble business model offerings.

- Realization of criticality of Liquidity – stringent focus on Asset-Liability match
- Power of Relationships over Transactional critical
- Strong government forbearance support – moratorium and restructuring support helped significantly – called for different type of customer communication to manage consumer behaviour.
- Relief Packages for Customers should disruption continue longer – Plan B – Emergency Help Products, Innovative rural collateral.
- Org restructuring making Sales responsible for Collections to expand reach and drive new behaviour.
- Saw Crisis as an opportunity – Leadership meets daily, Speedy decisions, radical thinking, constant process reviews, policy agility (exit from vulnerable sectors)
- Constant highlighted dashboards – Red, Amber, Green –with visibility across organization
- Leadership matters – Chairman / CEO monthly broadcast to teams in region and field

The Pilot studies also provided a strong basis for understanding potential key antecedents and consequences and developing possible propositions under different contexts (business domains, nature of disruptions, size of businesses)

Larger companies have the inherent strength and resources to absorb shocks and environmental disruption. Smaller SME face the brunt of the challenges and studying the ability (resilience) to manage disruptions – prepare for disruptions, face & confront disruptions and finally rebound effectively post disruptions would provide interesting and value-added insights. Simultaneously studying the strategies and actions amongst their larger peers would provide useful benchmarks too.

Key Financial Services player (NBFC) in the MSME Lending space (Fig-4)

- Strong government forbearance support
- Liquidity access

Govt /RBI intervention

Before Disruption → **During Disruption** → **Post-Disruption**

Before Disruption

- Prior close relationships with customers
- Proactive prior investment in technologies served as strong BCP.
- Previous disruptions had prepared business to improve portfolio quality & customer insights.
- Rapid digitalization for market reach, competitive pressures
- Power of Relationships critical
- Beefed up Liquidity. A/L focus
- Institutionalized approach with smarter risk/innovation practices

During Disruption

- Different customer-segments were impacted very differently.
- Significant proactive customer communication / CBMs
- Benevolent but rational HR actions
- Govt forbearance required different consumer behaviour communication.
- Continued investments in product innovations driven by need of the day.
- Leadership matters – Chairman / CEO monthly broadcast

Post-Disruption

- Relief Packages for Customers should disruption continue longer.
- Org restructuring making Sales responsible for Collections to expand reach and drive new behaviour.
- Saw Crisis as an opportunity – tighter portfolio quality.

Qualitative Study: -

Qualitative interview-based case-studies (Eisenhardt, 1989; Zeithaml et al., 2020) was conducted across representative companies and polar extremes across domains and company sizes. The interview questions and probes focused on uncovering the whole Resilience capacity and capability in execution through its evolution – Pre-disruption, during disruption and post-disruption event across a few major business domains – both the impacted and defensive sectors. The research is not restricted to the effects of the COVID-disruption alone but will uncover many other business challenges too. It is however expected that the current disruptions will occupy significant focus as it provides the opportunity to study the preparedness and the response in real-time as it evolves.

Target Audience: -

Owners / CEOs / Senior Managers capable and competent of providing details on key Functions – Sales & Marketing, Product and Engineering. Projects and Field Service, Finance & HR. Around 1-3 interviews / per company across 16 companies covering approx. 25 in-depth interviews.

Sampling

A theoretical sampling approach (or purposive sampling) was adopted in the qualitative research to generate theory. It is a cyclical process of data collection, analysis, and theoretical development. Here as the data is analysed, attempts are made to identify emerging themes and concepts. Further data is then collected from additional participants who can help to further develop the theory. This process continues until theoretical saturation is reached, which is the point at which no new information is emerging from the data (Strauss & Corbin, 1998).

Study of Portfolio Companies (SMEs) of a specialized Impact Investment Fund-House

A specialized Impact investment fund-house recognized as India's first B-Corp certified fund-house in recognition of its investment priorities and focus on operating in high-impact sectors agreed to participate in our research study. The company invests in key areas covering Financial Inclusion, Affordable Housing, Food & Agriculture, Healthcare, Education, Skill Development, Environmental Sustainability, ICT, Livelihoods, Water and Hygiene. The fund-house has invested in most of the companies operating in the areas supporting the UN Sustainability Goal charter. The study thus provides a unique opportunity to understand in detail the performance, strategies and challenges of SME companies operating across sectors in high impact areas and needed sectors of the economy impacting lives and livelihood.

Research Method

A total of 25 qualitative interviews were conducted with Owners/CEO/CXOs of SME companies in India. The interviews typically lasted 75-90 minutes and were transcribed from approx. 1650 minutes of recording into approximately 380 pages of text.

The interviews were conducted in 3-phases (including the 2 pilot-studies) to allow for learnings and revisions in the interview plan, updates to the question bank and explore themes to be probed deeper.

Comparison with larger corporates: -

Finally, 8 larger corporates across sectors – Financial Services, Retail, and IT were also interviewed and studied to contrast the planning, coping and subsequent recovery strategies between SMEs and larger corporates.

	SMEs Resilient	SMEs non-resilient	Large Resilient Firm	Larger Non-Resilient Firm
Defensive Sector	Portfolio firms	Portfolio Firms		
Impacted Sector	Portfolio firms	Portfolio Firms		
Benchmark			Across Defensive / Impacted Sectors	Across Defensive / Impacted Sectors

(Table: - 3)

Companies: -

The companies studied across sectors, large and small, are as under and covered across industries – older legacy industries and new-age companies. The interviewees were in every case the Founder/CEO or a very senior CXO who could clearly detail the context and strategies adopted.

(Table-4) – Details of Companies studied: -

(Note: - Company names camouflaged for confidentiality purposes)

No	Company	Portfolio co./Direct	Industry	Interviewee
1	SMECLEANENERGY	Portfolio SME Company	EV Energy	CFO/Controller
2	SMEFINANCE	Portfolio SME Company	Small Finance	MD
3	SMEDENTAL	Portfolio SME Company	HealthCare	CEO
4	SMESOCIALTECH	Portfolio SME Company	SocialTech	Founder
5	SMEGREENCHEM	Portfolio SME Company	Green Chemicals	CEO/COO
6	SMESOLAR	Portfolio SME Company	Solar Energy	CEO
7	SMEBIOENERGY	Portfolio SME Company	Renewable Energy	Head-Strategy
8	SMENEWFINANCE	Portfolio SME Company	MSME Finance	CFO
9	SMELABOURFORCE	Portfolio SME Company	Gig Labour	CEO
10	LARGEFOODTECH	Direct – Larger Company	Retail	Product Manager / RBH
11	LEADMSMEFIN	Direct – Larger Company	MSME Finance	COO/CFO/RBH
12	LEADSMALLBANK	Direct – Larger Company	Small Finance Bank	CRO
13	LARGELIFESCIENCE	Direct – Larger Company	Life Sciences	CEO
14	LEADSWPROD.	Direct – Larger Company	Software Product	CEO
15	LARGEFINCO	Direct – Larger Company	Financial Services	Dy CEO/CIO
16	LARGESCHBANK	Direct – Larger Company	Banking	Chief Risk Officer

Scope of Research Interviews: -

(Appendix-1 has detailed questions)

Interviews with CEO, COO, CFOs, Business Heads were undertaken to understand their priorities and challenges in coping with the difficult times. Where was their focus in resource utilization, where are they re-aligning their current resource base, what is their reserve capacity, what market actions are they taking in the very short term, during the beginning of the disruption and as the disruption unfolds, what strategic responses are being considered and executed – in terms of Product/Market choices, business models, resource allocation priorities etc?. Where is the sharp cost focus and reduction/optimization efforts? How are short-term costs vs long-term investment in capex being viewed? Specifically, what is the approach towards People and how is communication being led? How are People re-alignments and Org-re-structures being considered and worked out? How ready and responsive are People, Teams, and Business Units as they re-work priorities for the new challenges of the day? The broad areas probed are as detailed below:

- Role of decision making respondent and functional area
- Broad domain area and nature of Product/Services
- Impact of Pandemic Disruption, Other disruptions faced (Regulatory, Competition etc)
- Initial set of responses – People, Product, Market, Customer challenges
- Further strategies/actions as disruptions continued
- Finally, as disruptions tapered, and normalcy appeared to return, new business growth strategies adopted.
- How have any previous challenges prepared the Business?
- Risk Management Processes/Strategies
- Role of Technology, Digitalization, Automation
- Role of Innovation
- Perceived view of resilience

Analysis

All interviews were recorded and subsequently transcribed. The raw transcripts obtained from the Teams recording needed to be carefully heard/studied and edited for clarity, integrity, and completion. The transcripts were analysed painstakingly with due color-coding in Excel software to arrive at first and second order constructs.

The first level of coding (open coding) was conducted by going through detailed transcripts and categorising key expressions into meaningful concepts. Around 390 unique codes were identified.

The second level of coding (axial coding) involved finding relationships between the concepts that emerged from the first-level coding. The second level constructs were conceptual/theoretical. Around 75 key codes were established at this stage after further summarizing, de-duplication etc.

In the third stage, core themes were developed around related axial codes to build the overall TOA model as depicted in the Fig-5.

The ensuing themes were compared with existing literature and the study explored new understanding and meaning and expanded the existing Dynamic Resilience model to contribute added insights from the rich case-studies.

Desk-study analysis: - The study of businesses in terms of financial performance, business models, financial strengths, product-markets focus was also undertaken. The combination of the data, validated through rich-case studies provided a strong opportunity for meaningful triangulation.

The Axial Coding – Themes

(Fig 5)

Disruption Type

Pandemic

Govt actions - Demonetization, GST, Duties, Parities etc

Floods/Cyclone

Geopolitics/War

M&A

Strikes/Lockout

Inflation/Exchange Rates

Legal Disputes

Prior Issues (ResilienceInhibitor)

Client/Market Concentration

Supply Chain Concentration

Product diversity

Capital/Cash Reserves

Evolving Business Model

Govt sector - Orders/Payments

Prior Strengths (ResiliencePromoter)

Tech/R&D/Engg Strengths

Complex Project Execution capabilities

Innovation Culture, Constant Experimentation&Investments, Data Insights

Org Strengths-Shareholders, Boards, Investors, Mgmt Quality

Brand Strength - Trust, Reputation, Pricing Power

Financial-Group Strength, Conservatism, Liquidity, Strategic Investments

Relationship Strengths-Customer Credibility/Markets reputation/Networks

Proactive Anticipation & Planning

Buffer Stocking

Product Diversification

Risk Mitigated Customer Segment Strategy/Geo Diversity

Supply Chain - Risk Anticipation, Contingency Strategy

Improving efficiency/cost reduction/Yield improvement

Digitalization

Disruption Impact

Drop in Revenue/Customers/Orders

Supply Chain Constraints

Credit & Collections challenges/Cashflow & Liquidity

Run on Products

Logistics challenges on Plants.Labour/Field Force

Loss of Reputation/Crisis of Confidence

Fear Psychosis

Delay in Investments - Product/Facility/R&D

Money Market disruptions

Cost Actions

Staffing costs Optimization-Flex,Gig, Comp rejig, layoff

Rental Costs - Reduce, re-negotiate

Partner commission & incentive structure

Resource Reconfiguration

Re-assignment/allocation of Staff to New Product/Collections

Muti-functional Team squads

Repurposing Mfg facilities to new busines/productline

Reallocation of raw-material based on synergies

Key Strategies during Disruption

Reduced geo concentration/riskier products

Leadership in action-Staff/Customer/Markets/Partners

Focus on surviving Mkt Segments

Rallied Sales/Services Teams

Turnkey Projects less price sensitive

Cancel vendor contracts/manage larger relationships

Rationalize business/product lines

Planning adv prodn/buffer stocks for anticipated demand

Rebuilding Product/Market Perception

Real-time tracking of customer/market info for planned action

Process review for efficiency and speed

Strengthen Risk Management through deeper customer analytics

Innovation during Disruption and beyond

Accelerate Product/Market diversification/International mkts

Digitalization/Tech Upgrades

Develop New expertise/partnerships

Strengthen Product portfolio more fully address value-chain

Agile newer products based on customer feedback

New Growth Strategies

Repivot to newer business lines

Less riskier Product/market segments

Horizontal diversification to countercyclicals

Move to Higher Margin/Larger ticketsize txns

Strategic partnerships for cross-sell/upsell

International growth through Partnerships/JVs

Financial Innovation through better atudy of Unit economic

Premiumization

Newer distribution Channels

New Challenges

Smaller Nimbler companies emerging

Inflation/Exchange rate risks

Collaboration while competing

Newer International competion/larger domestics

Focus on Govt/regulatory plans and anticipate

Findings

Based on all the qualitative interviews conducted, the detailed Coding (Open & Axial) and their analysis alongside study of firm's financial performance, a comprehensive framework and model to demonstrate HOW resilience can be built by SMEs is suggested (Fig 6).

Two key insights and contribution: -

a) The model expands on the contemporary view of the Dynamic model of Resilience, through the three Disruption phases, and considers Resilience building efforts as a continuum across multiple iterative cycles of disruptive experiences, learning, development, innovation, and implementation. Iterative cycles of disruptions with accompanying learning & evolution of Business Strategies & Innovation aid in building a more resilient business. The illustrative examples from the companies are described ahead.

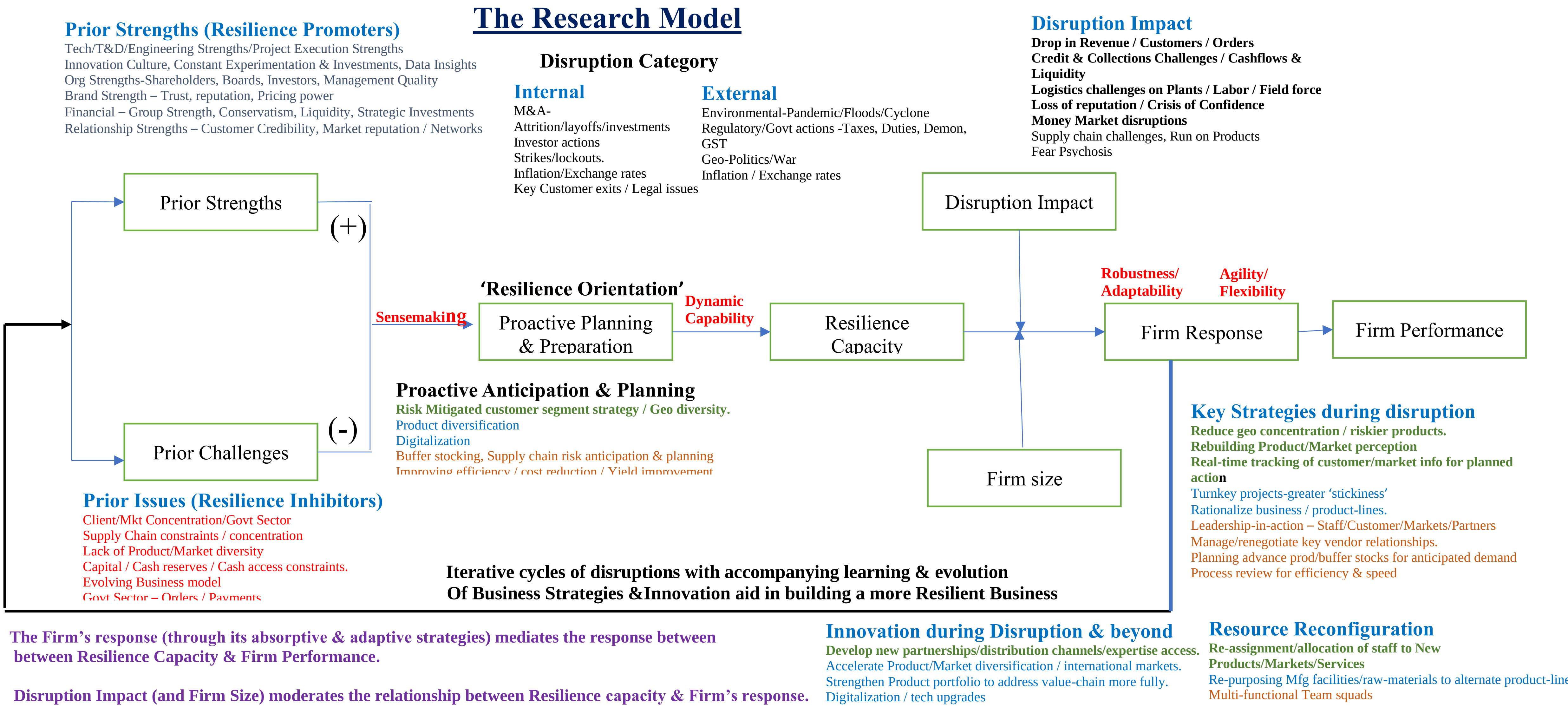
b) The other key insight is the observation on how business, Resilient organizations, are successful in leveraging their strengths (Resilience Promoters) to address their Challenges (Resilience Inhibitors) over the multiple disruptive cycles.

   Multiple examples are noted across the responding companies to illustrate this. (a) Companies with deep technology strengths build on their illustrious advisory boards (and premium educational/research institutions) to help access customers and build customer and product diversity (b) Companies with significant PE investor and board strength can reach across to the group portfolio companies to build a more diverse product-market capability (c) Companies with strong technical and project execution strength can leverage their reference to enter newer market segments (d) Companies with strong reputation and relationship strengths find it easier to access finance and financial markets (e) Companies with deep core technology and R&D capability find it easier to address their shortcomings and broaden their product portfolio in adjacent areas

c) A further preliminary insight that needs further longitudinal study is how firms achieve amplification of their business growth plans and their evolution.

The model is depicted in the accompanying pages. Detailed analysis of the strategies adopted by firms to plan for, cope with and manage, and lead through the disruptive times is explained following the model diagram pages.

The Research Model & TOA Framework
(Fig 6)



Defining Resilience – The Literature and the Practice View

The practitioner's view and definition of resilience builds on the conceptual and theoretical definition discussed so far. Our most evolved definition as per the literature suggested (as previously noted) the notion of Resilience with a more dynamic perspective (Conz & Magnani, 2020) viewing it as (a) attribute that evolves over time (b) identification of two paths to build resilience – absorptive and adaptive and (c) suggestion of firm-capabilities to be resilient at different phases of the disruption

The interview with senior leaders brought out how they really viewed Resilience in practice.
A senior leader in Financial Services (at LEADSMALLBANK) defined it as managing 'Liquidity, Leverage & Concentration' as the backbone of resilience. A successful entrepreneur building up a growing solar energy business (SMESOLAR) referred to the resilience attribute as 'Dedication, Determination, and devotion. A leader of a new age business of a large leading conglomerate referred to it more pithily as 'Doggedness without being overwhelmed'. Another manufacturing business CEO (SMEGREENCHEM) referred to it as a systematic process of 'Building people, systems and process to tide over any eventuality'. He also brought out sharply how lack of Resilience can weaken over time because of 'Complacency over success and cash-cows, lack of investment and innovation in new products and inability to ring-fence existing product through differentiation' quoting multiple global products. This last comment has been also been studied in detail by Gary Hamel in his article 'The Quest for Resilience'(Hamel, 2003). Another leader in a growing financial services business (LEADMSMEFIN) also spoke how the 'Culture & DNA' of an organization contribute significantly to resilience building efforts.

Disruption Categories & their Severity.

The study was conceived during the Covid-pandemic, to study the impact of a major disruption that affected all businesses, big and small, across domains and industries, including all countries and thereby providing a unique (unfortunate) real-time 'laboratory' to analyse closely how businesses prepare for, cope with, and recover and lead through challenging times. However, in practice as the study commenced and through the early pilots, it was realized soon that this phenomenon cannot be studied in isolation but must unravel other disruptive challenges faced by businesses, their learning and preparedness and how they influenced or impacted the organization.

Some of these disruptions were internal and therefore to an extent controllable, others were more external and more important difficult to predict and still more importantly plan for in advance. The following below indicates the disruptions the organizations in this study faced in recent times: -

Table 5: Internal & External Disruptions

Internal	External
M&A – Attrition/Layoff/Delayed Investments	Environmental – Pandemic. Floods, Cyclone
New technology challenges – Product acceptance, R&D challenges & Execution	Regulatory/Govt Actions – Taxes, Duties, Demonetization, GST, Make-in-India policies
Strikes / Lockouts	Geopolitics / War – Supply Chain Issues
Key Customer-exits / Legal challenges	Inflation / Exchange Rates
Competition / Margin Pressure	New Industry evolution- EV, Fintechs, ONDC

For detailed quotes from Business Leaders – Ref Table 9 (Appendix)

The internal challenges are said to be more controllable but still need to be planned and managed. The COVID-Pandemic was a significant disruption that affected all companies in some form or the other – in manufacturing plants, sales and distribution, customer perception etc.
The impact of an un-friendly acquisition can lead to people challenges – including attrition, lay-offs, loss of key knowledge etc. Delayed investments and changes in business and product strategies can be un-nerving to both staff and existing customers.

The impact of new competition both from new age, agile and nimble smaller players especially in new and evolving technologies had been faced by a couple of companies in the study in the clean and renewable energy spaces. Larger companies with their resources, ability to invest and market access are also threating SME players with interesting and game-changing business impact.

As a new-age corporate health-care organization said, "You also have things like GST, Pollution Control, board clearances, trade licenses, medical establishment licenses, etc, which we need to comply with and even the best of (private players) would not" ….and which pushes their costs up and render them less price competitive.

A clean energy company (SMECLEANENERGY) depending heavily on government orders which gained priority with the focus on rural electrification suddenly found its orders dried up with the pandemic.

A software company (LEADSWPROD) going through a difficult M&A with an aggressive, new ownership structure faced significant challenges with lack of business, product, customer & staff focus and key staff attrition in hordes amidst the raging pandemic, work-from-home challenges and 'great resignation' to add fuel to the fire.

Customer trust and confidence in restaurants and food-delivery due to perceived health risks collapsed an exciting new business model (LARGEFOODTECH) and growth engine. Field-force strikes too were faced by the organization but since the company was a large national entity, its impact was localized was managed quickly and adroitly.

Floods and cyclone affected manufacturing plants and customer's business significantly. The CEO of one of the companies in the business of green chemicals (SMEGREENCHEM) commented on the impact, *"So that kind of an event where overnight, you had a young company, some customer base, it was already tough to sell a product, a unique product, to set manufacturing companies. Make them believe that something that is too good to be true is actually true, ask them to use it, they started using it. And then one fine day you are gone. So, this being a biological process, they took six to nine months to recover, we had to just wait. Everything was in a bad state. Everything had to be started from scratch. The whole factory had to be cleaned up from the contamination".*

Government policy actions like Demonetization, GST, Make-in-India Policies, Duties, and taxies though well-intended all posed challenges across companies that needed to be coped and managed,

Supply chain issues because of geopolitics/sanctions and war have posed supply chain challenges across many companies in our study.

The Financial services businesses and banks have had credit and collection challenges because of the Pandemic but had also been affected by the previous 2008 global crisis and the Indian financial markets contagion because of the ILFS/Yes-Bank crises. A new-age financial services business (SMENEWFINANCE) looking to serve the exciting but under-served and under-penetrated MSME suddenly found the rug pulled away from under its feet when its potential and key marquis investor pulled away from the expected investment plans leaving the business scurrying for un-expected cover.

New challenges continue to emerge on the horizon with recession looming in global markets, inflation related risks, larger and global companies looking to enter the Indian market (as the next big market after China) and posing significant new competition with their ability to invest big and price low to win customer acceptance and market share etc.

Some of the above disruptive challenges had a more severe and lasting impact while others posed a lesser challenge especially when it could be planned and anticipated.

Prior Strengths (Resilience Promoters)

For detailed quotes from Business Leaders – Ref Table 10 (Appendix)

The prior strengths ('Resilience-Promoters') of the companies studied have been depicted in the Model Framework diagram. These have been grouped and extracted from the detailed interviews of the Business leaders and senior executives of these companies. Key extracts as quoted from these interviews have been detailed in the accompanying Table 10 as referred above.

Technology, R&D, Engineering and Project Execution strengths**: -** have been clearly highlighted as a major competitive strength and advantage. These strengths have helped the companies bring exciting new products to the market, gain customer credibility through strong execution, gain customer and market insights, enhance productivity, and enable more rapid and effective response by enabling the contemporary work-from-anywhere model. Digital transformation enabled by new-age technologies (Sinha et al., 2022)have help build a significant moat for companies against a variety of environmental challenges and disruptions. In our study, the solar energy company, SMESOLAR and the large Financial Services businesses, LARGEFINCO, and the smaller MSME focused business were clear exemplars in this area.

Key quotes: "If I did not have the R&D Department and trained manpower, I could not have faced this challenging situation and switch over to EV segment".

"There was one other really very complex project that we did - 50 megawatts in year 2013".

Innovation Culture, Constant experimentation and Data driven approaches**.**

Companies in our study set who have built a culture of Innovation, constant experimentation, willingness to test and pilot and acceptance of a degree failure as a steppingstone for future success have clearly gained a lot. This has been proved to be true across domains and sectors from the well-proven consumer finance sectors (LARGEFINCO, LEADMSMEFIN) to the more contemporary e-commerce led food-tech sector (LARGEFOODTECH), from the impact driven green-chemical sectors (SMEGREENCHEM) to the game changing energy company (SMEBIOENERGY) using biomass fuel (in replacement of fossil-fuel) in the fight against climate change. As was seen in the latest G20 meet, a new grouping, The Global Bio-Fuel Alliance has been formed with participation from developing and developed economies to explore and expand the opportunities much further and rapidly. While advocating the strong need for innovation as a pre-requisite for resilience (Hamel, 2003, 2006), strongly recommends addressing the four challenges organizations face in driving innovation – the cognitive challenges (free of denial), the strategic (working through alternative options), the political (will to divert resources from yesterday's successes) and the ideological (ability to think beyond optimization and operational excellence). The willingness to listen to the establish the 'voice-of-data' and act on the same has proven to be invaluable.

Key quote: - "There was a team which was already there.... and they keep coming up with these new ideas. And they keep experimenting with things, both products & strategy wise".

Organization Strength – Founders, Shareholders, Management Team, Board etc

Purpose-driven and passionate founders supported by a strong independent board and capable advisors have helped businesses in our study gain in multiple ways. They have help in attracting the right talent and build and retain a strong management team with alignment of vision and purpose (SMEGREENCHEM). As important they have helped build the credibility of the company and gain access to markets and open new opportunities. A few of the companies in the study were incubated at the prestigious IITs (SMECLEANENERGY, SMEGREENCHEM) and gained access to knowledge and accumulated wisdom of academics but also the networks of peers and much sought after relationships.

Brand / Reputation Strengths: -

As has been demonstrated and discussed in the literature too (Rego et al., 2022) , it was found that brands help in building business performance and resilience in a significant way. Obviously, brands need to be nurtured, strengthened, invested in, and built over business cycles. The demonstrated performance of the company over years through tough times, the credibility built, the culture of transparency and ethics all go to building the brand. As we heard from our respondents, this brand reputation has helped in retaining the pricing premium of products and gaining the confidence of customers through difficult times. This was a critical strength when the software product company, LEADSWPROD, was going through a difficult M&A during the pandemic too!

Key Quote: - *"You know, you're banking on the trust that you've built over so many years."*

Financial Strengths – Strategies, Prudence and Conservatism, Liquidity

Companies across sectors in the group studied, large and small, Financial and Non-financial companies, highlighted the need for conservative, prudent financial management. Access to liquidity (Christie et al., 2021) were often mentioned as a major source of resilience that provides strength and comfort during challenging times and were highlighted by the responding companies too. In the article cited above, 'The Black Swan Problem: The Role of Capital, Liquidity and Operating Flexibility', the authors concluded that the deciding factor in mediating the effects of revenue shocks on employment is liquidity with cash reserves and cash margins making firms less fragile….

Key Quote: - *"I don't know if I should call it foresightedness or sheer our policy of always keeping some additional liquid funds always". "We have no debt on our balance sheet"*.

This was a significant area of difference between the larger and smaller companies in our sample. The leading MSME financier (LEADMSMEFINANCE) in our study highlighted the company's vision and foresight in building up this access to liquidity which helped them tide over the pandemic disruptions when collection from challenged and affected customers were a problem aggravated by inability to support collection efforts in the field. The much larger Finance company, LARGEFINCO, demonstrated their huge absorptive strength by being able to take on the massive provisioning/losses necessitated by the 20% decrease in collections in two consecutive years. The SME engineering companies struggled through inadequate access to capital during difficult times. Some of them had just done a fund raiser, others were handicapped with their business plans needing to be tapered down and investment plans more graduated and calibrated now.

Relationships & Reputation with Customers, Partners, Market players

An important and key strength that was understood from the various companies was the big role of Relationships, access to network partners, relationship with customers, partners and other market players including bankers, financiers, and investors. The years of credibility built on foundation of performance, transparency and mutual trust have been of invaluable strength to companies as they rode the storm through very trying times. Often these were built on the personal chemistry of the founders, CEOs, and senior leaders. The goodwill gained over normal times proved to be an invaluable asset as companies leaned on their existing customers for newer orders, relaxation on delivery timelines, easier contractual terms, and even advance payments. This was clearly realized by businesses across sectors and even sizes. The leading software product company, LEADSWPROD, were able to find their existing customers with strong relationships more understanding of the challenges and willing to collaborate as a true long-term partner. The solar energy company, SMESOLAR, realized continuing business even during difficult times on the strength of their past credibility and trusted relationships.

The landmark paper on Buyer-Seller relationships (Narayandas & Rangan, 2004) demonstrate how even weaker firms can structure and thrive in long-term relationships with powerful through high levels of interpersonal trust across the dyad, which in turn leads to increased levels of interorganizational commitment.

Resilience Inhibitors (Prior Issues)

For detailed quotes from Business Leaders – Ref Table 11 (Appendix)

Client / Market Concentration: - This is seen to be a big challenge for the much smaller SME firms compared to their larger counterparts. SMEs typically operate in a particular location cater to a particular geographical market and customer segment before they expand their ambitions further expanding their opportunity canvas.

For specialized Microfinance institutions and SME/MSME financiers and Small Finance Banks, their very focus and genesis has proved to be hindrance during difficult times. As was highlighted by the CRO of a leading Small Finance Bank, the business focus and concentration towards riskier profile of the population causes asset correlation and thereby concentration risk.

For the two energy firms in my sample study (SMECLEANENERGY & SMESOLAR), their initial focus to the government sector with the focus on rural electrification priorities posed challenges on multiple fronts (a) Challenge with the vagaries and volatilities in Government ordering and tendering schemes particularly exacerbated during the pandemics when the order pipeline significantly dried up (b) Grid Price parity rules prevalent then (c) Poor financial condition of DISCOMS and resultant payment challenges.

The Chemicals company (SMEGREENCHEM) in my study had their initial challenge through being significantly focused on the textile industry which was facing global headwinds from 2018 onwards which got even more magnified during the pandemic.

As previously pointed out in a McKinsey insights paper, "'one that is not commonly discussed in traditional resilience planning – the focus on building resiliency in supply chains and navigating geopolitical shifts over the past few years has reduced the attention management teams give to revenue diversification".

Key Quote: - "Concentrating mainly on the rural electrification or these solar projects. Company should not depend on the either single business or a single customer".

Product / Market Diversity: - This risk is somewhat closely related to the above Client/Market challenge.

Let us consider the same set of business discussed above. For the initial MFI institutions and SME/MSME Financiers (LEADMSMEFIN, LEADSMALLBANK) , the initial product range was largely around relatively small ticket un-secured lending in riskier segments of Agri and Agri-related financing, Dairy Financing etc. This product concentration around un-secured lending led to huge collections recovery issues during difficult times exposing the business to market vulnerabilities.

Similarly, the product focus on solar energy equipment alone (SMESOLAR) had it own challenges while no doubt an attractive and high priority segment for the economy to move away from fossil fuels.

A lack of product diversification also exposes the business to competition arising from new technologies, larger players entering a new and attractive segment and pricing challenges besides of course the 'elephant-in-the-room', the product (and category) itself no longer finding customer favour – as with the food-tech delivery business'(LARGEFOODTECH) core offering during the pandemic.

The financial services software product firm (LEADSWPROD) has a strong and reputed product suite catering to the entire consumer-lending value-chain with an enviable client-list across global markets but is currently constrained by its product range restricted by its technology and the solution offering not being available on the contemporary SaaS model as popular now.

Key Quote: - "You are concentrating on a segment of the population, which is a little more vulnerable". "I need to reduce my dependency on unsecured lending &. how do I reduce geography concentration".

Supply Chain Issues**: -**The supply chain issues and challenges thereof have attracted much attention from the business press and academic research because of the increased globalization, cost arbitrage across nations, geopolitics, and the sanctions environment.

The energy firms in our study (SMECLEANENERGY & SMESOLAR) were critically dependent on key modules for the solar energy equipment being delivered from China as a sole country source – being affected both by pandemic related shipping-lines disruption and the government's policy changes around Make-in-India and Approved-List-of-Manufacturers. Similarly affected was the pharma player (LARGELIFESCIENCE) which was affected by the key APIs that were imported from overseas that had no immediate substitute locally.

The challenges that the auto industry is facing because of the acute semi-conductor shortage globally is well known. A position paper makes the argument in an article, *'An accident waiting to happen' – "One of the leanest and most demanding supply chains in the world" –*. The paper argues the just-in-time manufacturing (for the Auto Industry) can work well in a normal, stable, running production environment and manufacturers can run a tight shop with minimal inventory. However, with aggressive cost-reduction goals, efforts have been increasing to reduce all kinds of middlemen, channel partners etc and any kind of buffers with reserve stock (a key resilience requirement) that would add to costs. The paper goes on to note the challenge faced by the industry with long lead-time items like semi-conductors where the supply-chain could not effectively react especially with competition for foundry, fabs etc.

As noted in a key paper in the area ((Ambulkar et al., 2015) supply chain resilience can be built by nurturing strong supply chain orientation in the company nuanced by superior risk management infrastructure and resource re-configuration abilities.

Key Quote: - "As of now there is no alternative; majorly we are dependent on the import from China".

Cash Reserves / Liquidity**:** - The previous section discussed the availability of cash reserves and access to Liquidity as a key strength. It is re-iterated here again as how the lack of its availability can be a huge deterrent to not just growth, along with all accompanying capabilities in being able to invest in products, markets, staff, and capabilities, but to the very survival of the business.

Th growing energy business that is part of our study felt its shortcoming especially as it was re-pivoting to a new point of inflexion in its growth journey. Similarly, the exciting chemicals company had to grow in a more prudent and measured manner in spite of it have a slew of product capabilities in its armour.

Key Quote: - "unless you have (capital) money, you can't buy the other resources, right? So that's also a problem, which often restricts growth".

Evolving Business Model**: -**

This is especially true of young businesses in an exciting new area of technology. Also as conceived in the article (Amit & Zott, 2010; Buliga et al., 2016a), 'is there a way to innovate in their existing markets with their existing products by utilizing their existing resources and capabilities? How can we design/modify the firm's current transactional activity system' – a process which the authors refer to as business model innovation'.

Can the Software Product company in our study successfully re-pivot itself to a new-age SaaS Lending solutions company and compete more strongly with the upstart fintech, leading the way with its strong reference-able global clients and demonstrated product functionality? Can the Solar energy player repivot its business offering to a full-cycle captive partner to its various industrial clients including pharma, cement etc?

Resilience Orientation

(For detailed quotes from Business Leaders – Ref Table 12 (Appendix))

This study characterises Resilience Orientation as a key capability and situational awareness of the strengths and relative weaknesses of the of the organization (the 'resilience-promoters' and 'resilience-inhibitors') that will most support/enable the organization as well as constrain / challenge the organization the most during disruptive times.

Sense Making: - Closely complementing this understanding is the 'sense-making' skill that has been widely discussed in the literature (Weick, 1995) and previously mentioned. Sensemaking has been described as the process of creating meaning from evolving ambiguous or uncertain situations. In the context of business, sensemaking can be used to build resilience by helping organizations to:

- Identify and understand threats and risks. By gathering information from a variety of sources, including customers, employees, and industry experts.
- Adapt to change. Sensemaking can help organizations to adapt to change by helping them to understand the nature of the change, its impact, and the options for responding.
- Bounce back from setbacks. Sensemaking can help organizations to bounce back from setbacks by helping them to learn from the disruption, identify what went wrong, and develop strategies for preventing future shocks.

In the context of our study, we noted a few key areas where resilience orientation helped address and mitigate shortcomings – these are discussed below: -

The large Financial Services business (LARGEFINCO) in our study demonstrated a very astute sense-making capability when well before the pandemic, they incorporated additional provisioning into their financials, anticipating adverse business cycles in some of their key portfolios.

Risk Mitigated Customer Segment Strategy / Markets:

Many of our respondent businesses worked on this area proactively and learning from prior disruptions, others have progressively realized this through the challenging times and are at various stages of addressing them and now post the difficult times.

One of the businesses in the Solar energy area (SMECLEANENERGY), realizing the challenges of working exclusively with the govt sector shifted gears and began focusing on the new growth-area and the EV segment diversifying itself simultaneously on both the product and market front realizing some benefits of raw-material synergies. The other business in the same area (SMESOLAR) took a different route to diversify to a less risky segment. This company began to focus on the Commercial & Industrial segment, a relatively much smaller segment but where the contribution and impact could be much larger and the margins much better. This also helped the company ease themselves from the stranglehold of government restrictions on sources of supply, volatility of orders and contracts and realizing pricing flexibility, and of course simultaneously mitigating from the volatility of DISCOM payment challenges.

The food-tech new-age company (LARGEFOODTECH) through its early vision of defining itself as a logistics company and an all-things convenience platform had prepared itself it evolve into multiple progressive verticals as the need arose. They also developed plans to penetrate deeper into the Indian marketplace covering more cities.

The impact driven green chemicals company had already learnt from the textile market downturn and had begun to seed a new market segment in a relatively adjacent area – paper, which was still a small percentage of the overall revenue. Early go-to-market initiatives also commenced to other nearby markets like Bangladesh, SL etc beyond catering to purely domestic industries.

The MSME focused financial services business began focusing away from the riskier dairy business (also prone to significant political interventions) to more enterprise lending.

The food-tech business handled product diversification especially in plateauing markets differently. They chose to create brands with kitchens that have spare capacity to bring products that customers desired in the markets served. They also worked on a number of niche private labels to enhance the product's positioning reach and access.

The significantly larger pharma business (LARGELIFESCIENCE) worked towards being not overly dependent on one territory or one product …. for eg, as regards the US market which contributed to 1/3 its revenue (within that restricting the stringent regulatory authority component of the business to even lower) even as they grew to be much larger.

Key Quotes: - "We put our focus on the emerging new private commercial and industrial market (for solar energy)"

Product Diversification: -

This is a key area that companies felt built on their ability handle challenges and unexpected crisis.

The micro-finance and MSME finance businesses decided to move away from un-secured lending and move significant towards the less-riskier secured portfolios. This required software product development, new processes to seek, assess and manage different forms of collateral, new capabilities, and partnerships to evaluate collateral (like title-deeds etc).

The chemicals company through the strength of its key product ingredient, surfactants, and the anti-microbial properties they get out of their in-process fermented broth, realized the common threads to identify the potential of new business-lines and strategically build new products to cater to multiple verticals. The company through its expanded suite of solution offerings, not just point products, but also dosing systems and pumps etc took taking accountability for key performance metrics of the business-like whiteness, brightness etc and were thus able gain both stronger engagement and retain their pricing premium with growing competition.

The novel biomass renewable energy company (SMEBIOENERGY) took a different approach to widen its product and solution offerings, bringing to its customer the full value-stack of its services - from its consulting services around bioenergy to their clients, a business entity where they deliver the supply chain of biomass, to offering clients their products in its densified form as briquettes. To clients that need the full energy solutions as offerings, the company also undertakes full turnkey OEM activity including the asset heavy business where they install and run the boilers producing the energy in a Build-Own-Operate-Transfer mode (BOOT). As was brought out in the insightful article on "Rethinking customer solutions: From product bundles to relational processes" (Tuli et al., 2007), 'customers view a solution as a set of customer-supplier relational processes comprising (1) customer requirements definition, (2) customization and integration of goods and/or services and (3) their deployment, and (4) post-deployment customer support, all of which are aimed at meeting customers' business needs. The relational process view can help suppliers deliver more effective solutions at profitable prices.' The business realized here not just advantageous pricing but also greater stickiness with the customer relationship as they became more difficult to replace. *Key Quotes: - "this this is how we identify the potential of new business, and we strategically believe that we have to build multiple new verticals". "Growth has already sort of plateaued. - then you have to create your own brands, because you want to increase your margins"*.

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Supply Chain & Buffer-Stocks: -

These are two big areas normally thought through for contingency planning and well researched in the supply chain resilience literature too ((Ambulkar et al., 2015). The study delves into aspects that organization need to build resilience in this area by cultivating a strong 'supply chain disruption orientation'. This study argues that this alone is not enough, but companies need a superior risk management infrastructure and resource re-configuration capabilities.

The solar energy company had built buffer stock for its main-line equipment manufacture but was able to reuse a significant part of its inventory when it chose to repivot to EV batteries.

The pharma business used its significant resources to set up its own key starting material facility to de-risk itself from potential supply disruptions of pharma intermediates from China (it had anticipated). From the starting material facility, they eventually started manufacturing the APIs too. During the pandemic, when they faced a reverse problem, an increased demand for their products, they were confident of addressing the challenge with available plant, facilities& people. *Key Quotes: - "We procured all the raw material required in advance anticipating the solar business"*.

Digitization and Digitalization: -

Businesses have begun to realize the critical power of digitization and digitalization to automate and transform the business to not only support and enable during challenging times but also drive new growth agendas.

The Financial services businesses in our case study, big and small, have deployed these technologies in transformative ways. From fundamental ways of enabling branch operations, credit under-writing, collections, and customer-services from literally anywhere, to speedy offering of new products as needed in the markets, to more transformative solutions powered by analytics and deeper customer insights, they have found rapid adoption and business value.

The Group entity of the larger Financial Services business (LARGEFINCO) even decided to promote an entire consumer-durable-led E-market place lending business, an entirely new age business model.

The large pharma business adopted comprehensive digitization and recording to assure clean audit of its tests and process and win FDA approval and prove its credibility, also providing them the confidence of winning subsequent approvals and clearances in the largest and developed markets.

Key Quote: - *“" And so we have been focused a lot on making everything electronic, focusing a lot on data integrity, which are some of the issues that the US FDA has…”*

Efficiency Focus, Yield Improvement and Productivity: -

In difficult times these were paramount. To do more with less. At times of decreasing demand and pricing challenges, the focus on yield improvement productivity and efficiency were critical. This also attracted priority focus with inflation pressures and exchanges risk, as noted in the pharma business.

Key Quote: - *"You know with this high inflation, exchange rate depreciation we've been talking about it internally and constantly looking at cost reduction through yield improvement or scale so that we're able to deal with the inflationary situation much better”.*

Culture & Execution: -

The LARGEFINCO business articulated several fundamental strategies and approaches that they have built and ingrained into their ‘culture and DNA’ of doing business. Through the earlier challenges they experienced when money markets froze, the company has developed strong ALCO (asset-liability monitoring) processes to ensure their ability to respond to either of money market, bond market or inter-bank borrowings are disrupted. The company also has institutionalized strong planning processes for the short-term, medium term and periodic review mechanisms too to ensure their strong ability to respond to both market events as well as company performance. In the words of the company senior leader, ‘Culture cannot be written, culture gets created by the actions of management which leads to behaviour of people and as large number of people start behaving in a common way and start taking decisions in a common way the culture gets created. So, the respect for operations in this company is so high because the controller ship & controllership culture is extremely high’.

Resilience Capacity

How does then one build Resilience capacity in the business to handle significant predictable and un-predictable disruptions of varying impact? With the right resilience orientation and sense making capability, the business is readying itself on various grounds. But it still requires that distinct capability to bring them all together, the secret sauce ….

Dynamic Capability: -

It is really the Dynamic capability the that explains the "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments"(Teece, 2007; Teece et al., 1997). As previously discussed, they argue that dynamic capabilities are essential for firms to achieve sustained competitive advantage in today's fast changing, complex and uncertain business environment. The paper identifies three generic dynamic capabilities:

Sensing: The ability to identify and assess opportunities and threats in the external environment.
Seizing: The ability to mobilize resources to capture value from opportunities.
Transforming: The ability to continuously renew and adapt to changing circumstances.

Dynamic capabilities normally embedded in organizational practices, routines and procedures, and they can be difficult to imitate or transfer to other firms. 'Where normal routines and process need to be supplemented is when resources are scarce, things are moving fast and the terrain is unpredictable', simple rules and improvisation should be in the mix (Suarez & Montes, 2020).

In their HBR article (Merino & Charan, 2013), the authors advise that 'good decisions involve a lot more than analytics. They demand perceptual acuity, or the ability to see change coming; qualitative judgment, which allows leaders to formulate and select the right options; and credibility, which helps them gain acceptance for decisions.' They believe that these three capabilities can be developed over time by practicing habits such as listening to diverse views, thinking through consequences more deeply, and socializing the decisions transparently and persuasively.

These can be different aspects in each business. At the very large Financial Services conglomerate, the continuous cycle and rhythm of business that included a continuous cycle of 5-year strategic plans, annual Operating Plans, annual people strategies, couple with detailed monthly reviews both functional and project reviews that was part of the DNA of the company (so ingrained for 15+ years), ensured the fleeted footed capability and agile response that the large business needs. In the MSME Finance business studied it consisted of all functional leaders grouping together daily to closely examine developing scenarios and reviewing possible tactical plans.

At the large pharma business, the CEO led presence on the ground, in the field and in the manufacturing and lab facilities with constant interaction amongst all the leaders enabled quick and rapid response as needed. Besides the vision of the Chairman and the strong alignment of the senior leadership in ‘thinking end-to-end manufacturing over the entire value-chain’, as more amenable to scale building and de-risking over the options of trading, acquiring and services with its numerous dependencies and touch points….. is very different and unique that is helping the company to truly seize, transform and scale a very large opportunity in the country.

Firm’s Response – Strategies during Disruption

(For detailed quotes from Business Leaders – Ref Table 13 (Appendix))

Reduced geo concentration-risks/riskier products

This was a particularly important strategy for firms being affected by disruptive markets or specific product categories. The smaller financial services businesses that had significant un-secured lending in its portfolio began rapidly moving to safer horizons of secured lending. Certain markets considered riskier were avoided and concentration risks were particularly addressed. The larger financial businesses too commenced more careful sectoral risks and concentration.

The manufacturing and energy projects businesses which witnessed a downturn because of reduced priority of government’s focus on rural electrification adopted differing strategies. One of the businesses studies decided to withdraw completely from the volatile government-as-a-customer business and began focusing on the exciting new sunrise industry in the EV-battery segment leveraging its IIT incubation and support. The second business began focusing on the more attractive, though initially much smaller, and nascent Commercial & Industrial segment for meeting their energy requirements at far more attractive price-points realizing better profit margins with wider customer-diversity, lesser volatility and more effective receivables realizations.

The new-age, food-tech business which saw its main-stay food-delivery business from restaurants almost collapse because of health fear, restaurants shutting down and contact concerns began re-pivoting to newer pivot lines including grocery.

The green-chemicals SME company found it prudent to focus on the only surviving market segment, the paper industry then (from their mainstay Textiles business) continuing to push the sales agenda, traveling to remote and distant sites of the Mills rather than incur the downside of having to lay-off staff or increase the burn-rate.

Key Quotes: - “COVID was perfect for us because the groceries market had to go big…..And so, (we were) very quick to capitalize on that demand”. “We were doing a combination of introducing new products, and targeting customers where we haven’t penetrated”.

Rebuilding Product/ Market Perception: -

As important as the real battle as regards the viability and risks of the Product and Markets the business was operating in, was winning the perception battle in the hearts and minds of the customers and the broader marketplace.

The food-tech business (LARGEFOODTECH) deployed a variety of digital marketing programs to assure the customer of the safety of the offerings. Simultaneously, in the overall product area the company ensure the body temperature of the delivery personnel were recorded on the delivery package to provide a degree of comfort to customers.

On the B2B side, where the software product company (LEADSWPROD) was simultaneously battling two challenges – a difficult M&A process and the pandemic, the company relied on its strong relationship with customers and absolute transparency in terms of its realistic delivery commitments. This enabled the company to retain the long-term confidence of the customer despite some short-term revenue losses from having to give up on some orders.
This transparent approach to winning and retaining customers was also highlighted by one of the energy businesses (SMESOLAR) too.

Key Quotes: - "I think two parts there's a marketing aspect to it, and there's a product aspect to it. And both were done with the single motive of building a good consumer perception". "I think transparency with your clients is extremely important."

Rationalize business / product lines: -

The significantly larger pharma (LARGELIFESCIENCE) company began to curtail some of its product lines and ramp-up on its covid-support drugs portfolio. During a previous disruption caused by the global financial crisis, the company had experienced drastic capex cutbacks and decided to rapidly rationalize its wider portfolio and double down on its critical focus drugs products. At that time, a key challenge was also to additionally manage large and strategically important vendor relationships whose support would be critically required later.

Turnkey Projects & Solutions: -

The strategy of offering customers end-to-end turnkey solutions as a way of offering greater value to the customer but also building greater 'stickiness' was realized by many.
The biomass energy company (SMEBIOENERGY), through offering the BOOT (Build-Own-Operate-Transfer) program and getting inside the plant of the client, operating, and maintaining it for him, while releasing staff from his books, realized much longer-term contracts of upto 3-years (rather than individual product supply POs) and thereby greater dependency of the customer on the services provided.
Similar services were also provided for similar benefits by the clean chemical company (SMEGREENCHEM) for the textiles and paper industries.

Key Quotes: - "And that's the logic of extending ourselves also into a BOOT program, where we now invest into the boiler, which makes it extremely sticky".

Real-time tracking of Customer and Market information: -

This capability was found to be extremely important and was rapidly honed and developed through the disruption cycles. To understand the needs of the customers during difficult times, what was working, challenges faced in different markets and the ability to modify tactics in real time were critical.
The strong capability of the food-tech firm (LARGEFOODTECH) to deploy market insights for itself and its partners were game changing, and a significant competitive advantage and value add.
The financial services business (LEADSMALLBANK) gained from deeper understanding of clusters of risky markets and segments which were used to refine the credit scorecards.
The pharma & Lifesciences business gained from the constant market feedback on the demand or 'run' on it products in different markets to ramp up/down its production facilities and manage its supply chain through advanced orders and stock-buffering in very volatile market conditions.

Cost-Actions: -

While some cost-actions were obviously taken by almost all firms in the study, some used it as a tactical necessity to survive through difficult times while others deployed it more strategically to build a leaner and even stronger business, going forward.

The food-tech business by rationalizing its higher cost lease rentals in bigger metro cities and releasing high-cost executives, all factored in during the more expansive growth times, chose the opportunity to build a stronger and leaner business.

The large pharma business chose to address multiple potential challenging looming in the horizon –from the current pandemic to global inflation, to exchange rate pressures etc. They focused on efficiency & process yield improvements in their facilities to address these possible future threats too.

The large Financial Services business was an exemplar in the area. As the key senior Leader in the company repeatedly quoted the adage, 'One must never lose the opportunity of a good Crisis'. During the low-business times, they launched a most un-conventional re-engineering program. Rather than it being just a mere efficiency and productivity improvement program, they embarked on a full-fledged zero-based budgeting program, re-evaluating their entire financials, operating expenditure, capex programs, capital deployed etc to explore scenarios if the pandemic disruption was to extend for a very long, unknown period.
The above company also highlighted another important point and a strong source of their confidence. They believed their systematic rigor of their strategic multi-year, annual, monthly, and functional and project reviews, their strong operations focus and compliance culture all provide them the routines and process that gives them the confidence to handle disruptive times, while admitting that gut/instinctive decisions honed by the above is critical, when no real data is

available. This has been also well highlighted in the article (Suarez & Montes, 2020) on Building organizational resilience and how to cope and thrive through uncertain times.

Key Quotes: - "The topmost feature was better utilization of capacity. We were able to convert a lot of our fixed cost into variable costs". "So, it was not only reengineering in the classical way. But we attacked it zero-base, from the financial point of view, from an operating expense point of view, from a capital expenditure point of view".

Visible Leadership in Action in the Market, with Customers and Staff: -

While this area was emphasized across sections of the study, it is particularly worth highlighting the role of visible, strong, committed, transparent & empathetic leadership during trying times. Customers need to understand your challenges and assurances on your plans and as importantly provide an opportunity to seek support and understanding during possibly a mutually difficult time. Multiple examples were highlighted notably by the Software Product company and the Solar energy company where customers walked the extra mile with business providing additional orders and revenue, improved prices, longer term tenors or just even acceptance of extended delivery timelines.

Larger & Smaller Business

The stark differences between the smaller and larger companies in their ability to cope and strategies adopted were also striking. The large and new-age Food-tech company deployed their considerable technology strength and resources to repivot to a new area, rapidly developing two new models, the proximate *kirana*-store model, and the fully equipped dark-store model.

The larger pharma company, part of a leading conglomerate, could lean on its peer-group companies for logistics and healthcare support during the trying times. When supply chain logistics were constrained and air-cargos were limited, the company even had access to their own corporate aircraft to airlift critical supplies and further even assist in the cargo clearances.

The large Financial Services company strongly demonstrated its absorptive strength when Collection processes were hugely affected across the financial services industry both due to inability to deploy the requisite field force as well as simply the inability of large sections of the affected borrowers (whose salaries were impacted) to pay. They demonstrated strong resilience when upwards of 30% collections of their customers did not pay and a few thousand crores of rupees losses had to be borne across the two covid cycles.

Resource Re-Configuration Strategies

(For detailed quotes from Business Leaders – Ref Table 14 (Appendix))

Resource Reconfiguration strategies during disruptive and challenging times have been well studied and documented in the literature. Resource re-configuration strategies has been defined as the ‘strength and ability of the firm to reconfigure, re-align and reorganize their resources in response to changes in the firm’s external environment (Ambulkar et al., 2015; Helfat, 1997; Wei & Wang, 2010). This study further adds the nuanced aspect of the ‘strength of the firm’ in addition to its ability emphasizing the availability of resources or their accessibility as a necessity before it can consider its reconfiguration.

The businesses in our study deployed the following strategies as they coped with the business and market turmoil.

The solar-energy (SMECLEANENERGY) business that re-pivoted to EV-Battery manufacture was able to re-use over 80% of its raw material inventory and thus leverage the commonality.

The green chemicals company took a different approach. Leveraging its core technology strength in surfactants and anti-microbial properties in their intermediate products they were able to reuse it across industry segments – notable leather, textiles, and paper – reconfiguring for the end solution and industry as business cycles of each industry grew, plateaued, and tapered.

The other energy company (SMESOLAR) that continued to focus on solar energy but shifted its markets to the Commercial & Industrial sector used the Covid crisis to become leaner and build more ‘muscle’ in its operations. Its Project Team now had multi-skilled staff and assigned such “Team Squads” to their project sites.

Quite similar in approach were also all the Financial Services businesses big and small. When the markets sank, disbursements were curtailed, new customer acquisitions were at an all-time low, collections challenges simultaneously peaked with insufficient field collections staff on the field and customers’ ability/willingness to pay also rising, it was an ‘all-hands-on-the-deck’ approach that was deployed by many of the businesses. From the leading MSME financier to the very large full-portfolio Financial Services behemoth, the approach was similar – sales staff were re-assigned collections responsibility with some innovations in their commission structuring, collections incentives replacing sales incentives. Other operations staff were re-deployed to Digital project initiatives that gained rapid momentum during this period.

Some of the businesses that re-pivoted to newer, less impacted, or more attractive product lines were quick to re-train and re-assign staff to the new opportunities. The financial services businesses that were predominantly into the riskier but higher margin un-secured lending business moved to loan-against-property lending even in the lower strata of the population segments (Micro-LAP & LAP). The leading food-tech business that shifted gears to focus on grocery delivery reassigned its restaurant sales manager to be accountable for Grocery retailers and *kirana* shops management.

The Software product business that was hit by multiple challenges – from a difficult M&A and forced cost cuts, to the simultaneous impact of the pandemics & the WFH pressures and the 'great resignation' during all this – found new answers. From a largely in-house talent pool of software developers and business analysts, the company found new cost attractive possibilities with contract staff and gig-professionals, which segment they ramped up, reconfiguring to advantage their resource management pool available to them.

The large pharma business had a reverse challenge during the pandemic crisis. They anticipated a big rise in demand for a couple of their products during the health crisis based on a 'run' on other products used in the treatment protocol. The company moved fast to increase supply of these products though re-purposing of its existing 'facility, staff and capabilities' fulfilling not just its business purpose and mission but also delivering value for all.

Key Quotes: - "80% raw-material is common compared to solar and EV.".
"So, the entire sales force was asked to collect".
"So, we actually repurposed one of the facilities to make more."

Innovation Strategies during Disruption

(For detailed quotes from Business Leaders – Ref Table 15 (Appendix))

As organizations face a variety of disruptions, as seen even in this study, ‘successes have never been so fragile’ and companies can no longer just ‘rely on the flywheel of momentum’. In the landmark article, ‘The Quest for Resilience’, the author implores that success no longer depends on momentum but rather on resilience – ‘the unique ability to dynamically reinvent business models and strategies as circumstance change’ and companies ‘needing to become as efficient at renewal as they are at producing today’s products and services’(Hamel, 2003, 2006).

Let’s look at our representative companies and their strategies.

Strengthen Product Portfolio / Accelerate Product Market Diversity

The ability and willingness of the young SME solar energy company to change track from its mainstay solar energy business (to Govt as a customer) to the exciting new area of Electric Vehicle energy and seeding the early development even ahead of the Pandemic was enormous, as it saw the early signs of headwinds and risks with Govt as the sole customer and their volatility and viability of new business, even though large and potentially attractive.

The green chemicals company, when it faced headwinds first in the leather industry and subsequently in the textiles vertical, began leveraging its ‘reconfigurable technology’. They commenced its innovation & R&D efforts with product offerings in two new areas – the domestic cleaning products in the B2C with plans to offer it in the ecommerce marketplace, and a product for the B2B Paper and Packaging industry sensing an explosive demand in this segment due to increased online buying. The disciplined approach to product-market choices was also evident when the company chose to avoid the seemingly attractive sanitizer market during covid times, when it evaluated that the government norms required it to be alcohol based whereas the competitive edge, they uniquely offered was more bio-based.

The first dental corporate chain (SMEDENTAL) in the country chose to innovate in a very significant way – they decided to manufacture a key dental product, clear-aligners, which hitherto was imported, and supplies were erratic, and they had struggled with meeting its demand with their customers in their growing marketplace. Through this specialized offering they were able to cover the entire value chain from ‘sourcing patients, diagnosing patients, identifying clear aligner cases, provide the clear aligner cases through an end to end internally designed and manufactured capability.

The biomass energy (SMEBIOENERGY) company took significant initiative to expend their product-market they were catering to so far. From largely focusing on the pharma sector, the company began early initiatives to cater to the iron and steel industry. The capability required here was very different as they need to deliver higher calorific value of the energy, the fuel needed need to play the role as a reduction agent while also having a process for de-gasification. The allied industry was also the cement industry with lower calorific demands but also providing a cluster of customers in proximity. They also made early forays in the very large B2C segments and restaurants for delivering fuel for ‘tandoors’(cooking fuels). An unconventional but critical need was also delivering for the crematoriums which required access to cleaner fuel.

The large food-tech company’s pivot to groceries has been highlighted before. But was educative to know was the significant effort and experimentation that was in the works for a long time and a culture of using analytics, experimentation and data to study opportunities, sensitivities, customer-segments, and other what-if scenarios. With the background R&D work already in place and a well configured product broadly thought through, it enabled the business to launch a vastly new segment in just around two weeks!

The large pharma and life sciences company took bigger bets. They pursued their mission as being primarily a biological company and decided to pursue the initiative to manufacture vaccines, right in the middle of the pandemic. They also commenced programs to work on gene therapies. They refused to be slowed down by the pandemic and continued their investments to pursue the expanding opportunities by investments in new offices and planned facilities.

Key Quotes: - “We were the first ones to be able to manufacture aligners in India with a full stack end to end ecosystem.”.
“So, the product team literally turned it around in two weeks. They were very smart about it.”.
“We started the vaccine initiative during COVID…. we started the gene therapy initiative during COVID”.

Building New Expertise / Partnerships

The solar energy company, now focusing on the more attractive Commercial &Industrial segments began offering full turnkey solutions – from land acquisition, delivering on the power purchase agreement and construction of power-plants. This required significant new techno-commercial expertise which they built during the quieter covid period, but they also developed new partnerships with key specialist legal and land consultancies in the area.

Key Quotes: - “During COVID and since we had time also, we started offering power purchase agreement, land acquisition and all the other approvals which is always a very tricky domain”.

Digital / Tech Upgrades

May of the businesses especially in the financial services area realized the power of end-to-end digital solutions, customer analytics to gain deeper insights on the customer segments and build more sophisticated risk models and screening and forecasting templates.

Newer more products that were the need of their segments as in a Flexi-EMI product, a health-care finance product (LEADMSMEFIN) etc were developed through much closer interaction with the field and more refined understanding of customer needs. With secured lending being now the focus, this became an attractive focus leveraging technology, rapid product developments and taking advantage of new government rules and regulations.

The larger Finance business through its significant technology strength, resources and capability laid the ground for a complete consumer durable marketplace with financial product tied in.

So, while the larger firms brought in their financial strength, investment appetite and resources to bear for the innovation, the smaller firms dived deep into themselves bringing their skills, capabilities, and proactive vision to deliver the innovation needs expected of them.

Key Quotes: - "I would say if it wasn't this pandemic, we would not have innovated some products. So, as I mentioned we rolled out a product called Flexi EMI product. Such product innovations have happened, and technology could implement that.

Firm Performance

(Financial Charts attached – SME firms followed by larger firms)

The attached charts depict the financial performance of the businesses over the last 5-years, clearly the most disruptive in recent memory impacting different businesses across sectors and size differently but affecting them all in some way; all of them affected by the pandemic but many experiencing differing internal and external challenges described earlier too.

The three energy companies are a fascinating study in their contrasting performance vis-à-vis their strategies adopted, not particularly focused in their absolute financial numbers, but in the trends displayed. The solar energy company (SMECLEANENERGY) that sensed the slow-down, volatility and challenges in government orders and switched to the EV sector were able to stabilize the sharp dip in revenues much earlier and stabilize and plateau their revenues too earlier. However, since their strategy they adopted involved investing in radically new product areas, newer business and customer segments and requiring much field trials and slower adoption rates, the revenue growth post disruptions were also inherently slower and cautiously and consciously calibrated.

The other solar energy company (SMESOLAR) that stayed the course, in terms of its primary business area, saw its revenue fall precipitously till early 2021 – but since then its changed focus to the CNI (Commercial & Industrial) segment with growing markets and better margins saw it realizing its revenue growth back. The strategy adopted of also going full turnkey in terms of offering land acquisition and PPA contract agreements began to also pay off significantly as also through the 'stickiness' of their trusted customer-relationships.

The biomass energy company (SMEBIOENERGY) has been in a different league all together. The company and the financial performance were relatively unaffected by the pandemic and their revenues continued to grow. With their supply chains mainly from the domestic, rural, agricultural sector largely protected and their B2B markets too largely focused on the pharma and other defensive and less impacted sectors, revenues continued to grow as well as their confidence to invest in R&D and focus on newer sectors (iron & steel, cement etc) with different product needs, calorific value etc and even commence venturing in the highly scalable mass-market segments like restaurants etc. However, their appetite to continue investing strongly in newer segments has had its accompany impact on operating profits.

The green-chemicals company (SMEGREENCHEM) with its frugal mindset and cautious approach managed things differently. They were careful in their investment approach, but their 'platform-technology' enabled them to switch from the slowing down textiles sector and re-position their core product strengths in surfactants and anti-bacterial product capabilities into the rapidly growing paper, more specifically the packaging sector, spurred on by the burgeoning growth in the e-commerce sector during the pandemic. While the revenues remained nearly flat through the pandemic and losses dipping further, the newer planned sectors in Paper & Packaging, Domestic Cleaning began paying off with revenues rapidly increasing and losses sharply reducing.

The Dental Care chain of clinics (SMEDENTAL) faced multiple challenges leading up to the pandemic – from Legal/Trademark issues to competitive pricing issues as a corporate (compared with un-regulated practices) to finally the pandemic. Through this, while it saw its revenues sharply dipping because of hesitancy of its patient population to seek largely discretionary treatment, the company used the opportunity of the crisis to become leaner, with smaller more efficient clinics, contracting specialists to variable pay, rescheduling clinic-practice hours etc to maximize efficiency and productivity. It also has plans on the anvil to manufacture 'clear-aligners' a key dental product which it was procuring heavily and was dependent on the vagaries of its supply chain. This enabled the company to rapidly grow the revenue lines as well as sharply reduce its losses even as its looks to expand its market to other cities.

The larger Pharma and Life-Science company (LARGELIFESCIENCE) has been able to leverage well its Group strengths as well its agility in sensing the market challenges and opportunities to grow steadily in revenues and profits right through the pandemic. While the company has the defensive sectoral advantages it had to surmount supply-chain challenges and other people and logistics impact which it managed deftly protecting its revenue growth and profits while continuing to invest and secure its future.

The new-age food-tech business (LARGEFOODTECH) was most severely impacted by the Pandemic when the fear-psychosis engulfed its consumers, decimating its business model and restaurant partners too. The technology capability, analytics driven approach and agile capabilities of the business enabled it to pivot to grocery deliveries serving a vital need during the pandemic. The agility displayed by the business in slashing costs of its cost rentals, excess high during normal times, reduced incentive payouts to its delivery channel and moderated commission structure, all enabled it to transform to a leaner and a more financially fit business. By early 2021, it returned to its pre-pandemic revenues and soon re-commenced its growth journey. However, it is continuing in its competitive investment mode, driven by PE investments, seeking to change consumer behaviour and gain larger market share with profits still elusive.

The finance companies and banks, large and small, are again worthy studies as they are really proxies for the real economy.

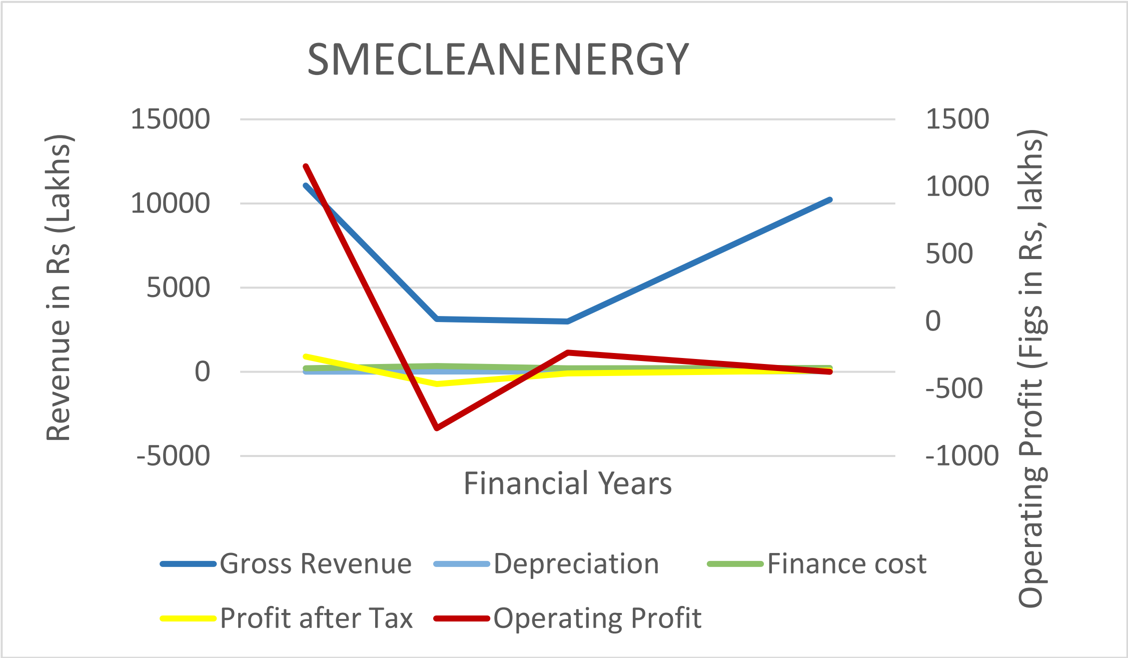
The new SME Finance company (SMENEWFINANCE) which encountered two significant disruptions in its short tenure so far. The first, a sudden volte-face of a key potential investor which necessitated brakes and significant changes in their business strategy, plans and go to market. The second of course which posed Credit and collection changes for the entire sector. The combination of these resulted in significant deceleration of the company's asset growth but importantly much volatility in their profits too. The other MSME finance company (SMEFINNACE) which started business just before the pandemic had already experienced its first disruption through a cyclone that ravaged their marketplace before the pandemic hit them. Their strategy was more cautious in the lending style and approach relying on their previously experienced and trusted customer segment. This enabled them to grow their revenues and profits in a more deliberate and calibrate manner.

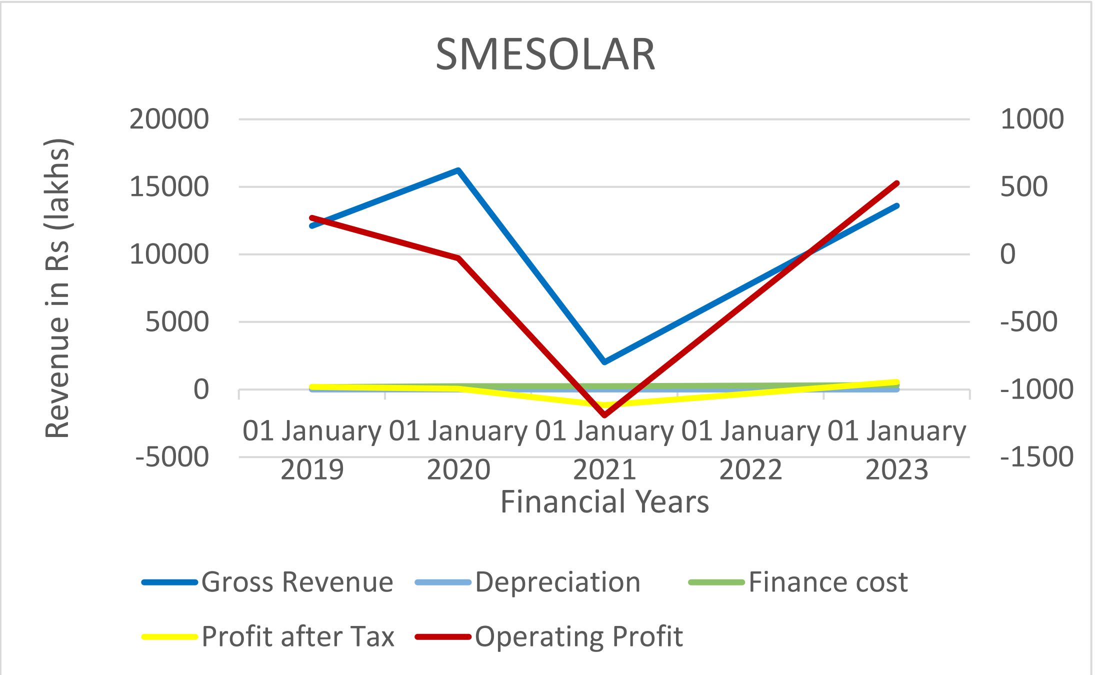
It is significantly illustrative to study in contrast the performance of one of the largest finance companies in the country as also a small finance bank evolving from its previous avatar as a micro-finance institution.

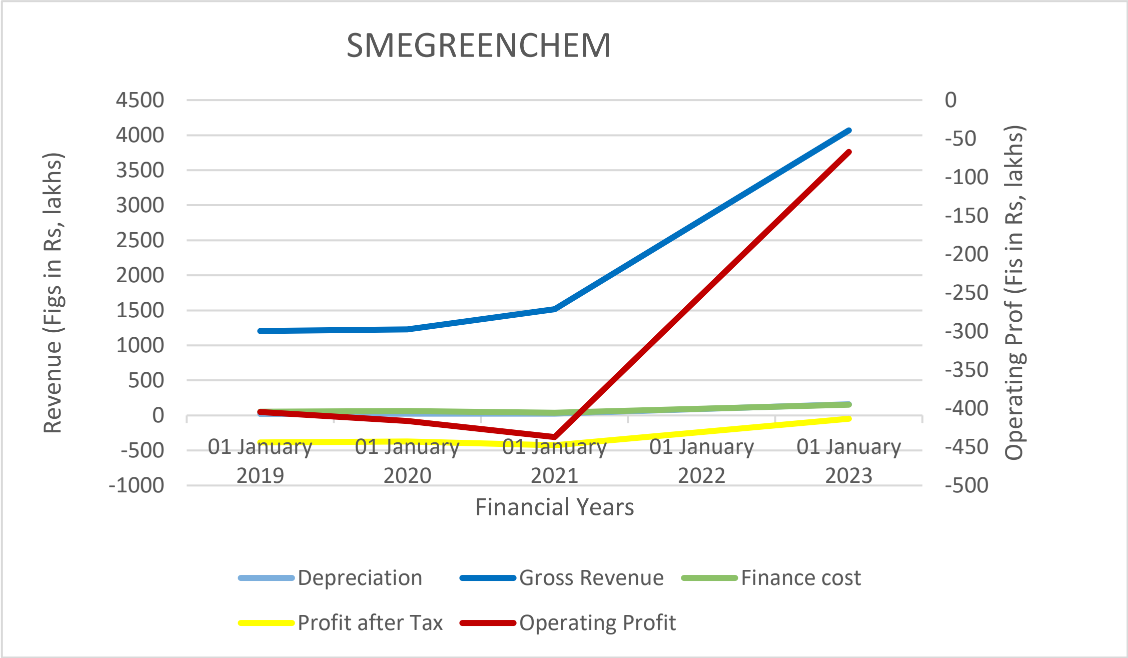
While the large Finance company (LARGEFINCO) went through significant collection challenges and increased write-off and provisioning needs, they were able to bring their significant organizational, financial and management strengths to cope with the disruptions with only a tapering and a slight dip in their revenue and operating income trend lines as can be seen in the accompanying graphs. With the impact of the pandemic tapering the business is backing to its growth trajectory with an impressive pipeline of product and business innovations fuelled by technology.

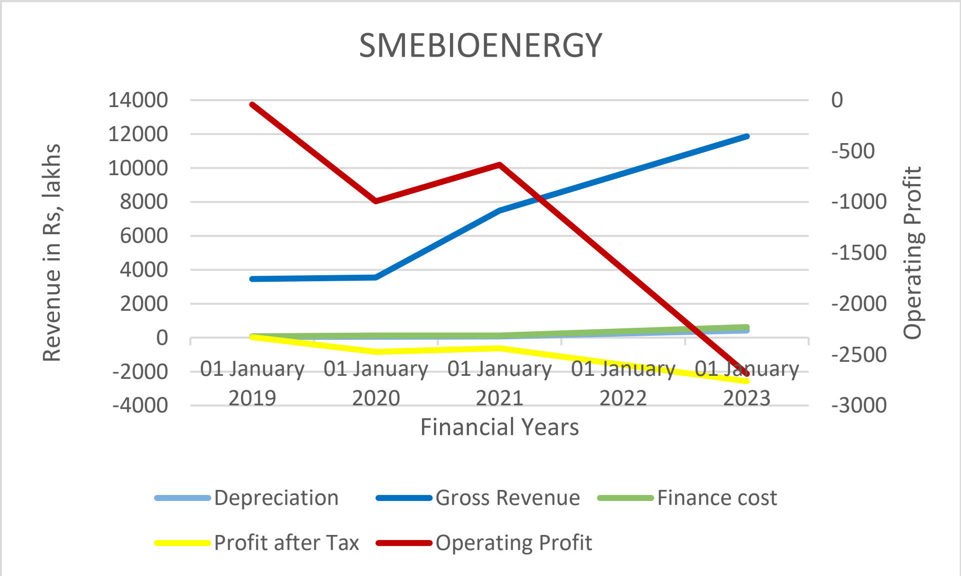
The other small finance bank (LEADSMALLBNK) recovering from previous significant losses in its microfinance business too was able to manage and recover its revenue and profits trendlines too albeit with the anticipated dips during the covid years. However, the profits would need to still pick up based on improved and de-risked product mix, increased focus on secured lending and greater geographic diversity.

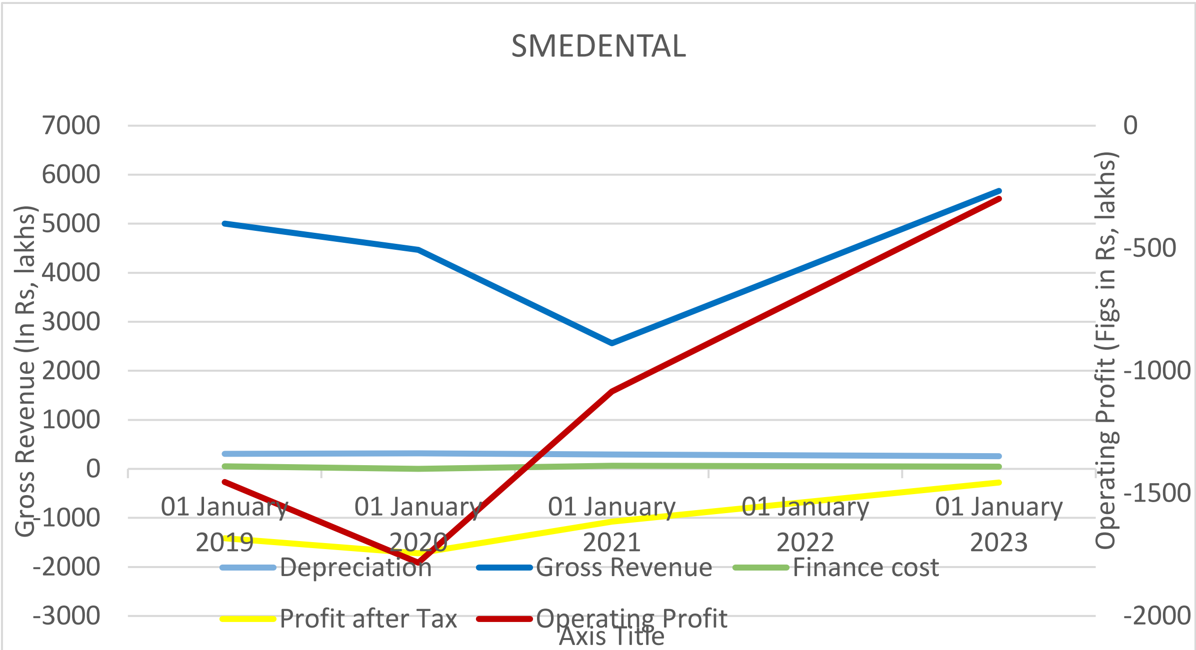
The Software Product company (LEADSWPROD) which went through a challenging M&A (alongside the pandemic) has an interesting story. With the new investors focus on margins and profitability at all costs, while revenues plummeted with downsizing and pandemic related tapering of new orders and attritions, margins and profitability increased significantly. Now in the post-covid era revenues too have begun picking up though still to reach the pre-pandemic and pre-M&A levels.

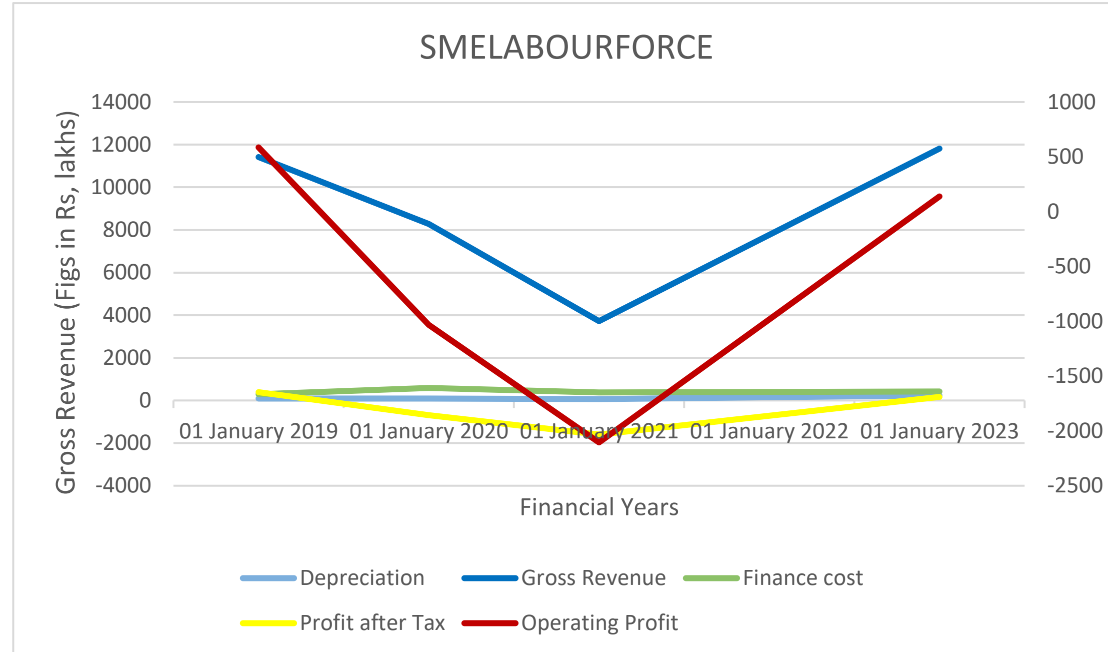

SMECLEANENERGY
15000
10000
5000
0
-5000
1500
1000
500
0
-500
-1000
Revenue in Rs (Lakhs)
Operating Profit (Figs in Rs, lakhs)
Financial Years
Gross Revenue
Depreciation
Finance cost
Profit after Tax
Operating Profit

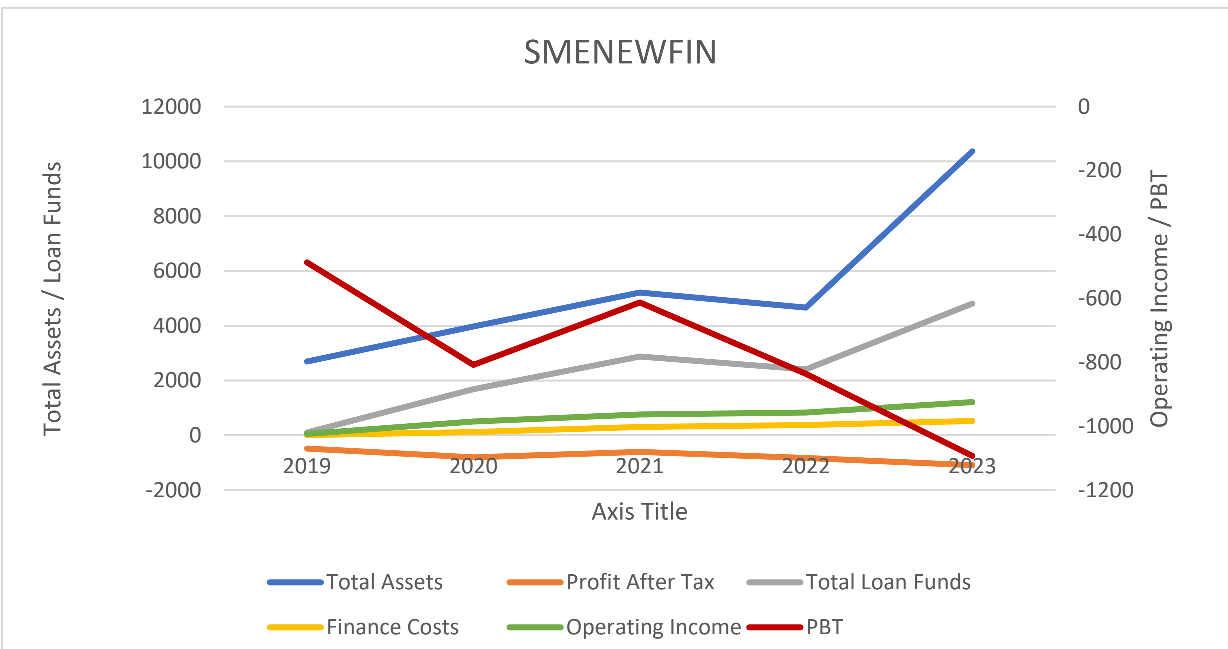

SMESOLAR
20000
15000
10000
5000
0
-5000
1000
500
0
-500
-1000
-1500
Revenue in Rs (lakhs)
01 January 2019
01 January 2020
01 January 2021
01 January 2022
01 January 2023
Financial Years
Gross Revenue
Depreciation
Finance cost
Profit after Tax
Operating Profit

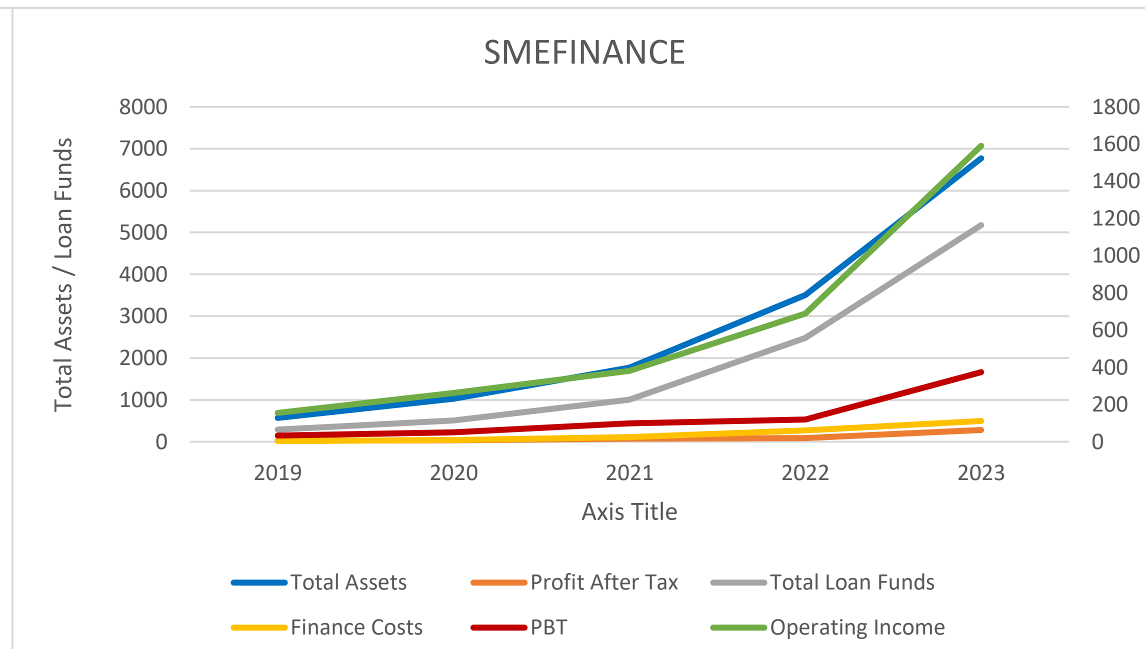

SMEGREENCHEM
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
Revenue (Figs in Rs, lakhs)
Operating Prof (Fis in Rs, lakhs)
01 January 2019
01 January 2020
01 January 2021
01 January 2022
01 January 2023
Financial Years
Depreciation
Gross Revenue
Finance cost
Profit after Tax
Operating Profit

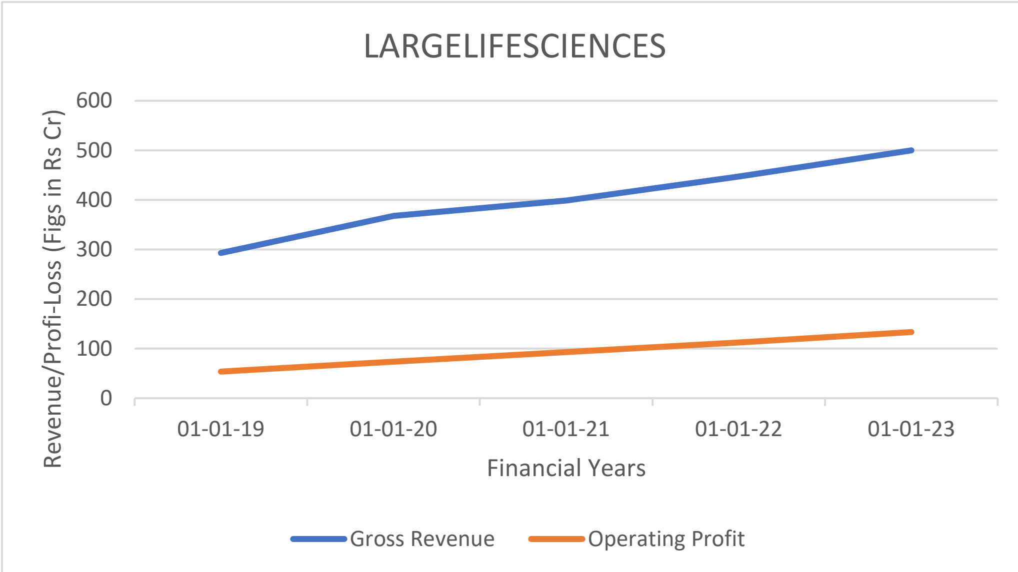

SMEBIOENERGY
14000
12000
10000
8000
6000
4000
2000
0
-2000
-4000
0
-500
-1000
-1500
-2000
-2500
-3000
Revenue in Rs, lakhs
Operating Profit
01 January 2019
01 January 2020
01 January 2021
01 January 2022
01 January 2023
Financial Years
Depreciation
Gross Revenue
Finance cost
Profit after Tax
Operating Profit

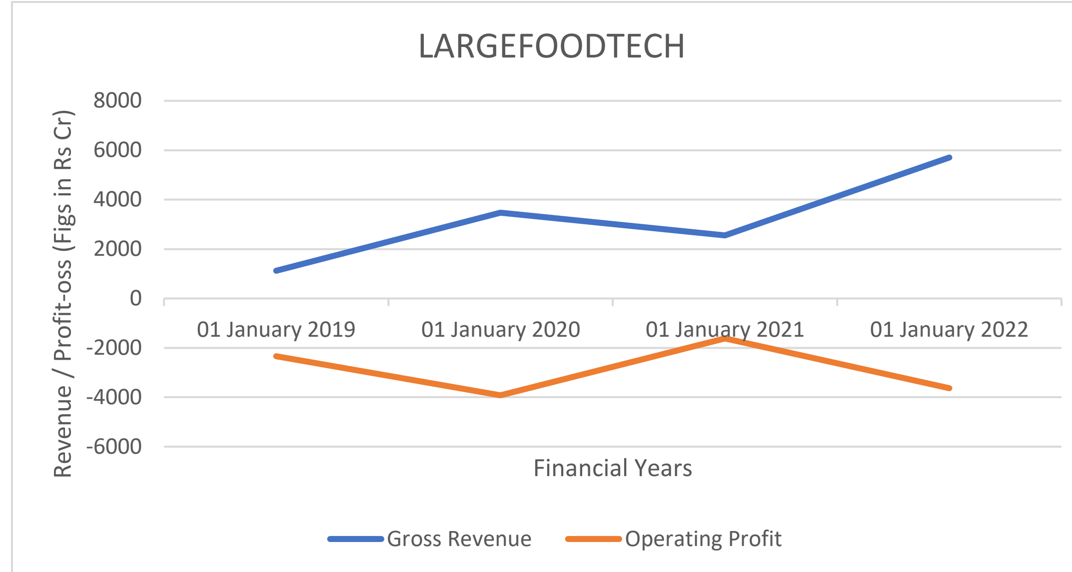

SMEDENTAL
Gross Revenue (In Rs, lakhs)
Operating Profit (Figs in Rs, lakhs)
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
0
-500
-1000
-1500
-2000
01 January 2019
01 January 2020
01 January 2021
01 January 2022
01 January 2023
Axis Title
Depreciation
Gross Revenue
Finance cost
Profit after Tax
Operating Profit

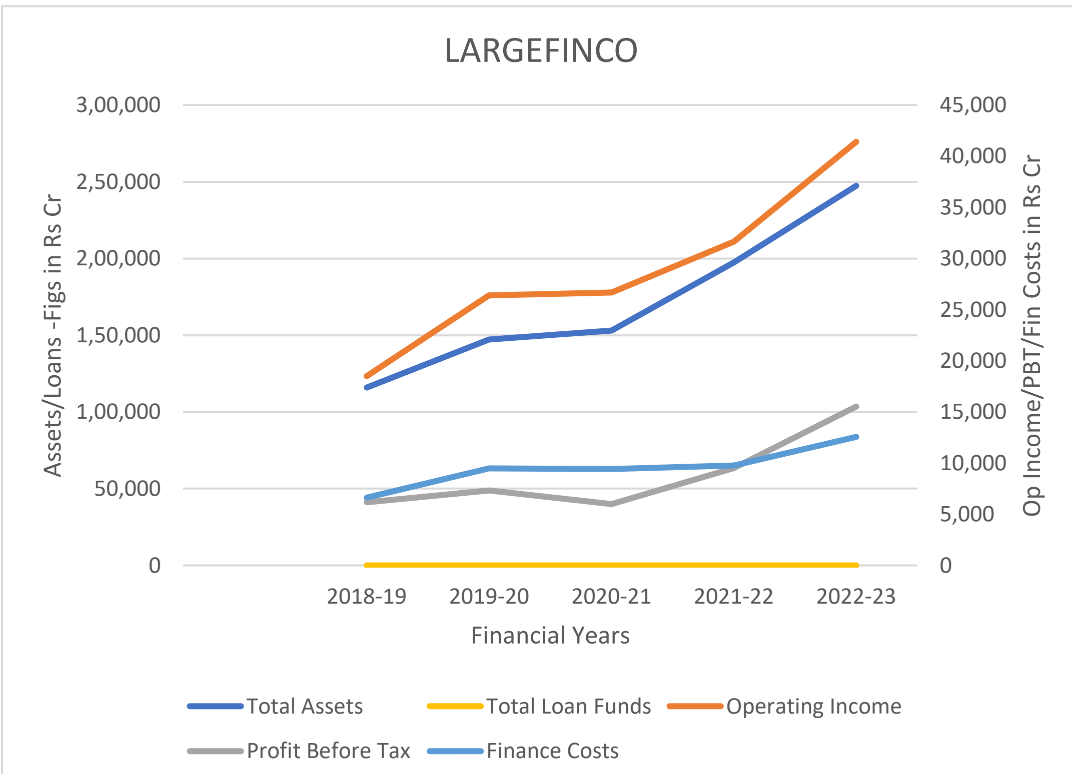

SMELABOURFORCE
Gross Revenue (Figs in Rs, lakhs)
14000
12000
10000
8000
6000
4000
2000
0
-2000
-4000
1000
500
0
-500
-1000
-1500
-2000
-2500
01 January 2019
01 January 2020
01 January 2021
01 January 2022
01 January 2023
Financial Years
Depreciation
Gross Revenue
Finance cost
Profit after Tax
Operating Profit

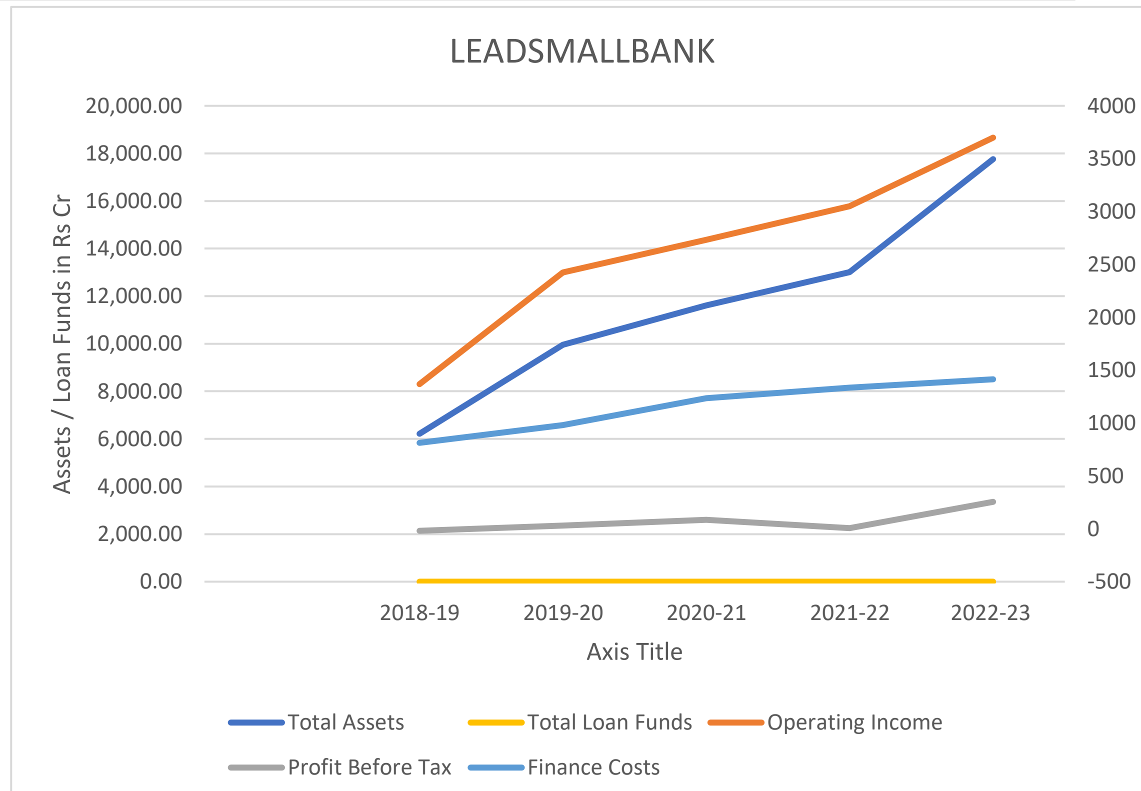

SMENEWFIN
Total Assets / Loan Funds
Operating Income / PBT
12000
10000
8000
6000
4000
2000
0
-2000
0
-200
-400
-600
-800
-1000
-1200
2019
2020
2021
2022
2023
Axis Title
Total Assets
Profit After Tax
Total Loan Funds
Finance Costs
Operating Income
PBT

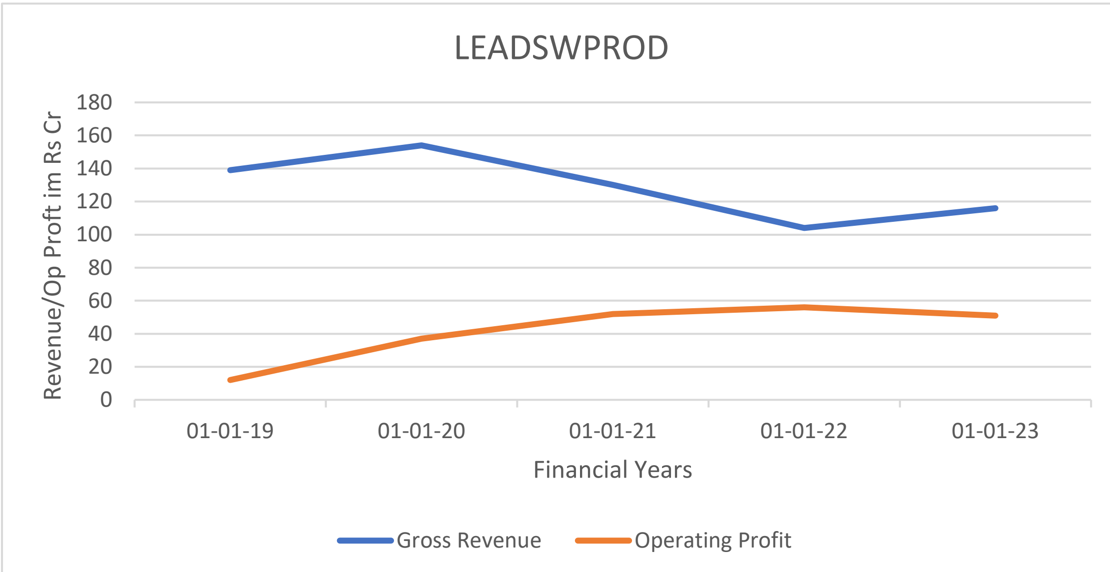

SMEFINANCE
Total Assets / Loan Funds
8000
7000
6000
5000
4000
3000
2000
1000
0
1800
1600
1400
1200
1000
800
600
400
200
0
2019
2020
2021
2022
2023
Axis Title
Total Assets
Profit After Tax
Total Loan Funds
Finance Costs
PBT
Operating Income


LARGELIFESCIENCES
600
500
400
300
200
100
0
Revenue/Profi-Loss (Figs in Rs Cr)
01-01-19
01-01-20
01-01-21
01-01-22
01-01-23
Financial Years
Gross Revenue
Operating Profit

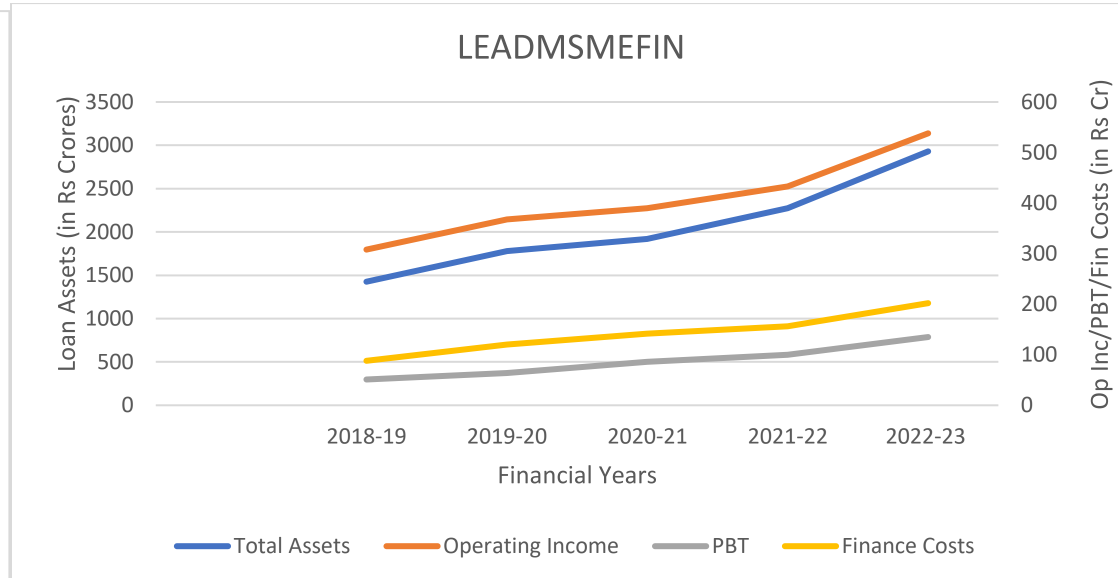

LARGEFOODTECH
8000
6000
4000
2000
0
-2000
-4000
-6000
Revenue / Profit-oss (Figs in Rs Cr)
01 January 2019
01 January 2020
01 January 2021
01 January 2022
Financial Years
Gross Revenue
Operating Profit


LARGEFINCO
3,00,000
2,50,000
2,00,000
1,50,000
1,00,000
50,000
0
Assets/Loans -Figs in Rs Cr
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Op Income/PBT/Fin Costs in Rs Cr
2018-19
2019-20
2020-21
2021-22
2022-23
Financial Years
Total Assets
Total Loan Funds
Operating Income
Profit Before Tax
Finance Costs


LEADSMALLBANK
20,000.00
18,000.00
16,000.00
14,000.00
12,000.00
10,000.00
8,000.00
6,000.00
4,000.00
2,000.00
0.00
Assets / Loan Funds in Rs Cr
4000
3500
3000
2500
2000
1500
1000
500
0
-500
2018-19
2019-20
2020-21
2021-22
2022-23
Axis Title
Total Assets
Total Loan Funds
Operating Income
Profit Before Tax
Finance Costs



LEADSWPROD
Revenue/Op Proft im Rs Cr
180
160
140
120
100
80
60
40
20
0
01-01-19
01-01-20
01-01-21
01-01-22
01-01-23
Financial Years
Gross Revenue
Operating Profit



LEADMSMEFIN
Loan Assets (in Rs Crores)
3500
3000
2500
2000
1500
1000
500
0
600
500
400
300
200
100
0
Op Inc/PBT/Fin Costs (in Rs Cr)
2018-19
2019-20
2020-21
2021-22
2022-23
Financial Years
Total Assets
Operating Income
PBT
Finance Costs

Amplification & Growth Strategies (post disruption) & New Challenges

(For detailed quotes from Business Leaders – Ref Table 16 (Appendix))

As the saying goes, 'Never let a good crisis go to waste'. Several of the companies – Many of the larger companies and some of the smaller firms took on a new aggressive posture to re-position themselves for the new future (and new normal). Their thoughts and actions are captured below: -

Amplification Strategies of the Larger firms: -

The large life-sciences and pharma business has continued its planned investments without missing a beat and is aggressive expanding its manufacturing facilities significantly. The company realized the potential of the mRNA vaccines during the pandemic and is looking to expand its suite of vaccine offerings. It is also looking to expand its product portfolio to have a more comprehensive basket of offerings as specific products complete its value-chain life cycle. An update: - The company has made significant facility investments in a new city to expand its geography footprint too. The company is also preparing itself for opportunities in JVs and other forms of partnerships with pharma companies in other countries – all seeking to build local capabilities – but also helping the business with local market access, regulatory approvals even while offerings its technical knowhow and expertise.

The LARGEFINCO business is back into high-growth investments again – investing in an e-marketplace business and building a future ready offering and readying itself for the anticipated significant shifts in 'consumer-behaviour' and buying preferences. The company is also investing in a payments business with a clear priority on enhancing its 'stickiness' with its suite of customer offerings even though its attractiveness as a stand-alone business maybe modest.

As was in the news recently too, the LARGEFINCO business is undertaking an unprecedented and major step of a significant fund raise in the market even though they were well covered from capital adequacy requirements per se. This is read by the markets as planning for an aggressive readiness for a stronger than expected growth (and the strategic opportunities evaluated) but more importantly seen as a strategy 'to fill up the coffers ahead of a possible ambush by a new very large competitive disruptor in the consumer and commercial lending space.

The medium-size specialized MSME (LEADMSMEFIN)financier achieved a strong exit-cum investment through the entry of one of the largest global Private Equity players, brought in a new CEO from a top-private sector players and is all set to aggressively expand. The asset growth and PBT growth have already started climbing sharpy in the last years.

In effect, the resilience model defined at the commencement of our study not only evolves into an iteratively growing model but is seen to leverage the disruption triggers to spur significant growth levers too as an Amplification capability, as it builds up its resilient strength.

The smaller SME businesses took measured steps and began executing previously planned strategies while the larger business has taken on a more aggressive approach.

The SME-GREENCHEM business continued to leverage its core product platform to move to different verticals as in paper, packaging, domestic chemicals etc. But the bigger opportunity is its vision to re-imagine the water business, a massively growing need of the market with explosive demand envisaged. The company after a series of satisfactory trials is confident of a strong entry here. Besides the company is also expanding its focus on the nearby international markets and is looking to grow its Sales capabilities with senior experience in the markets.

The SME-Solar Business has in addition to focusing on the less risker and higher margin CNI segment chosen to invest in a completely different counter-cyclical business – the consumer durable and appliances segment in a B2B2C models offering a wide range of domestic electrical appliances.

The SME-BIOENERGY business has taken on a interesting direction too. In addition to its core focus of bioenergy and offering its specialized fuel capabilities to a wide swathe of industries, the company is now looking to leverage its common high-profile shareholder to share the revenue and benefits with its peer portfolio companies seeking its specialized rural access.

The SMEDENTAL chain of clinics after streamlining its operations to a leaner business is now looking to expand its proven model across cities. More significantly after its foray and success in fuller backward integration (as with its clear-liner success) the company is looking to launch a full-fledged dental lab offering dental prosthetics which is currently procured from specialist vendors.

Key Quotes: - "Working on vaccine now, the other is several mRNA products because the pandemic has shown that mRNA products can make a difference". "We took a longer-term view. We said we have to build a new factory".

The Challenges: -

The challenges confronting the big and small businesses are many in the VUCA world we live in. The attractiveness of the Indian market is bringing in a host of new global competition even in areas like biofuel. Spurred on by the climate challenges and need to find new answers, exciting new opportunities abound amidst more global competition.

The Financial Services sector continues to rapidly evolve with the growth of Fintechs, large conglomerates entering the fray, blurring lines with global retailers offering financial products and the expanding telecom sector and smart phone access.

Newer geo-political risks around supply chain challenges, exchange rate fluctuations and inflationary pressures, all will need to be managed and addressed.

The regulatory environment would need to be carefully factored in into the planning process as new duties and levies may be the order of the days as countries get more protective.

As we notice, however, the iterations will continue as the resilient companies evolve and grow through their challenges.

Impact & Response of Large & Small firms.

As clear from the studies so far, the impact and hence the response of small and large firms for even similar disruptions (as in the pandemic) has been vastly different. The larger firms with their larger absorptive capacity through larger access to financial and resources and wider diversity of products, markets and clients and market assets clearly adopt widely different strategies than the smaller businesses even though the impact in absolute terms is very significant for the bigger firms too.

The smaller firms with their smaller balance sheet and access to the resources stated above need to take a much more aggressive strategy and drive more stronger action plans (as typified in the examples below): -

Table 6 :- Comparison of Strategies adopted by Smaller firms vs-s-vis Larger firms

		Smaller Firms		Larger Firms
1.	SMECLEAN-ENERGY	Shift core Product line from Solar energy focus to EV energy storage	LARGE-FOODTECH	While they were able to test & re-pivot to groceries, they used the disruption to get leaner and strengthen their core business fundamentals.
2.	SMESOLAR	Shift core customer focus from the Govt PPA model to the smaller but sharply growing Commercial & Industrial markets.	LEAD_MSME-FINANCE	Were able to absorb the financial shocks, reconfigured team and became stronger on strength of their IT capabilities
3.	SMEDENTAL	Rapid cost / Opex reduction, changed business model	LARGELIFE-SCIENCE	The group strengths and prior investments in facilities enabled them to re-configure and even capitalize and contribute through changed product-mix and meet enhanced customer requirements.
4.	SMEGREENCHEM	Leveraged product-platform to quickly switch business-lines	LEADSWPROD	The firm's market-based assets, customer trust & loyalty enabled them to tide through twin internal-led and external challenges.
5.	SMENEWFINANCE	Loss of planned investor required drastic change in business focus / customer segment & strategy	LARGEFINCO	The company was able to absorb the large financial impact, focused further on extensive digital transformation and even extended to new digital-led business-models as an additional edge,

It is in the study of the above that the very insightful article, 'From jugaad to jugalbandhi' (Jain, 2020) provides a powerful guide with exemplar case-studies, to smaller businesses on the way to build and scale their firm through disruptive times (as seen through the larger firm comparatives) – being frugal, flexible, and inclusive early on while simultaneously working on their systematic innovation, with its focus on building capabilities, relying on process, and advancing technological frontiers.

The key opportunity available to tenured (and experienced) firms is the likelihood and the inevitable challenges and disruptions they may have faced over their years in operation. As illustrated in the model, every disruption challenges the business to change, transform, improvise, and evolve their product-market strategies, business models and grow their financial muscle. With the organizational learning and resilience orientation, they should have improved their resilience capacity for the next disruption they may face in future. Hence older (tenured) firms that have been tested and gone through fire do build the resilience 'fibre' in their organizational strength.

Internal Challenges vs External Disruptions

The other notable area of study of study is the preparedness-response possibilities for firms as they face internal challenges vs external disruptions.

Firms in our study faced the following internal (and to an extent controllable) challenges – M&A related challenges, legal disputes, key customer exits, inflation-exchange rate risks, competition and related margin pressures, product acceptance risks etc. While these are and were tough challenges for the companies while facing them, firms can more consciously and with more determined actions and risk-management (assessment and mitigation) infrastructure improve and enhance their preparedness to address these issues.

The external challenges are the ones that require more higher order sense-making and dynamic capabilities to anticipate, plan, work in advance and prepare for the difficult (and perhaps even unlikely!) scenarios ahead. These call for enlightened management and thought processes to manage and lead through the 'cognitive, strategic, political and ideological' challenges (Hamel, 2003) especially inevitable in larger and even successful organizations.

Table 7: - Comparison of Strategies in response to Internal & External Disruptions

		External Disruptions *(Pandemic, Govt regulations, GeoPolitics, Supply-Chain Issues, Floods/Cyclone, New-Tech)*		**Internal Disruptions** (M&A, Customer Attrition, Competition, Legal-Challenges, Product=Tech Issues)
1	**LARGEFINCO**	The firm anticipated ALM challenges well, learning from past, provided for conservatively, and built conservative financial cushions gearing up for competition too.	**SMEDENTAL**	The company faced legal/trade-mark challenges besides competitive pressures from non-corporate health-care providers. They navigated these through business/org restructuring.
2	**LARGELIFESCIENCE**	The firms anticipated geopolitical related supply challenges and consciously built facilities to support end-to-end manufacturing with reduced external reliance.	**LEADSWPROD**	A difficult M&A tested the business fully. However there long, trusted customer relationships & credibility help them navigate the difficult times
3	**LEADMSMEFIN**	The company consciously diversified to secured lending and less risky portfolios compromising higher margins for safety and invested in technology	**LEADSMALLBANK**	The portfolio concentration of riskier, unsecured lending created very difficult times for the company. Through conscious risk management, portfolio shifts, they are slowly coming out from challenging times.
4	**SMESOLAR**	The pandemic hit them hard. But their consciously early steps to move to less volatile CNI segments protected them and further helped with better pricing & margins too.	**SMENEWFINANCE**	The loss of a key potential investor led to huge business challenges for the company because of concentrated and riskier lending. They had to consciously shift gears & change business model

The below illustrative 2x2 framework depicts the insights from Table 6 & 7.

Clearly small businesses that are impacted by external disruptions more difficult to anticipate must resort to cost reduction plans, shifts in product/market strategies, and leverage the prior strengths and relationships with customers.

Fig 7: Disruption Response by Category (aided by Resilience Capacity)

	Smaller Firms	Larger Firms
External Disruptions	• Shifts in Product / Market strategy and Business Lines • Leverage Trust & Relationships built with clients and market. • Cost reductions	• Stronger financial cushion & Liquidity access • Buffer stocks for Supply Chain risks • Facilities for end-to-end manufacture of value-chain/repurposing • Evolve rapidly with new growth strategies.
Internal Disruptions	• Business Re-org & re-structuring • Incremental portfolio shifts (Product/market)	• Process rigor and review mechanisms • Risk Infrastructure & mitigation plans

Larger customers who by nature of their operations encounter regular internal disruptions have built into their process rigor and review mechanisms the inherent ability to manage and tide over such challenges. These large customers when encountering unplanned external disruptions rely on their large financial cushion, contingent stocks of planned resources and facilities and can evolve rapidly with newer growth strategies if they demonstrate the needed agility.

Moderators & Mediators: -

Based on the study of strategies the companies adopted across sectors, big and small, their financial performance, it is thus realized that: -

- Firm's response (through its absorptive & adaptive strategies) mediates the response between Resilience Capacity & Firm Performance
- Disruption Impact & Nature (Internal vs External) and Firm Size moderates the relationship between Resilience capacity & Firm's response.

Key Propositions

The consolidated list of key propositions identified & developed for further study are as below: -

Key Propositions: -

P1: - The lower the Customer/Market Diversity, the lower the resilience of the business

P2: - The greater the Product diversity to support larger value-chain of customer's business the higher is Business Resilience

P3: - The lower the speed of Technology adoption & implementation, lower is Business Resilience

P4: - The higher the track record of Product and Business Process innovation the higher is the Business resilience.

P5: - The stronger the Relationships with Customers, Vendor-Partners, Bankers, higher is Business Resilience.

P6: - The lower the ability to reconfigure staff and facilities across Product-Lines and Markets , lower is the Business Resilience.

P7: - The more severe the disruption impact, multiple Product-Market strategies required in tandem.

P8: - Larger companies (because of their resource strength and Product-Market diversity) are less impacted by disruptions and hence inherently more resilient.

P9: - The more extended the Product value-chain for the Customer Business, the more 'sticky' the customer relationship and hence greater the business resilience.

P10: - The greater the organizational learning and adaptations from previous disruptions, greater the improvement in Business resilience.

P11: - Increased cycles of disruptions leads to greater organizational learning and adaptation leading to improved Business resilience.

Managerial Implications

For Academicians / Practicing Managers / Financial & Market Analysts

For Academicians – Contribution to Theory

Some of the implications for business academics based on the study of business resilience:

- **Enhanced theoretical basis**: - The study provides an enhanced basis for building an integrated Resilience Strategy for an increasing volatile business environment. It expands on the prior notion of resilience as a dynamic attribute across the cycle, pre-during-post disruption. It now observes and realizes that multiple cycles of disruptions with accompanying learning & evolution of Business Strategies & Innovation aid in building a more resilient business (as depicted in our conceptual model).

- **Testable Proposition for Empirical Research:** - The study generates key propositions that can be tested across key industry segments and business sizes.

- **Improved teaching and training**. The study can be used to improve the contemporary curriculum, both in core business courses as well as in Exec-Ed programs to develop new course modules or training programs on business resilience. The modules on Business resilience can augment core courses in Marketing, Finance or Strategy areas.
- **Contribution to policy and practice**. The study can be used to inform policy and practice related to business resilience.

For Practicing Managers

The study offers the following for practicing Business Managers: -

- **Improved understanding of the risks and challenges facing their business**. The research study can help managers to better understand the risks and challenges facing their business, both internal and external. This can help them to make more informed decisions about how to mitigate these risks and challenges.
- **Identify opportunities to improve business resilience.** The study can help and urge managers on the imperativeness and urgency to identify opportunities to improve their business's resilience. This could include aspects like improving financial strength, developing contingency plans, or building a culture of innovation.
- **Develop a more holistic approach to risk management**. The study also should spur managers to develop a more holistic approach to risk management. The resilience study will also seek to address the challenge of over-conservatism and being overly risk-averse as being counter-productive.
- **Improve communication with stakeholders**. The study should help managers to improve communication with stakeholders about the risks and opportunities facing their business. This

can help to build trust and confidence among stakeholders, which can be important for attracting investment and support during difficult times.

- **Get ahead of the curve**. By understanding the priority of business resilience, managers can get ahead of the curve and take steps to protect their business from future disruptions.

For Market & Financial Analysts

The study has the following significant implications for the Analyst & Markets research community: -

- **Improved risk assessment and management**. A study on business resilience can help analysts to better understand the risks that businesses face, as well as the factors that contribute to resilience. This information can be used to develop more effective risk assessment.

- **Enhanced investment decision-making**.

By understanding the factors that contribute to business resilience, analysts can make more informed investment decisions. For example, they may be more likely to invest in businesses that have strong financial fundamentals and a culture of resilience.

- **Better understanding of market dynamics**.

The study on business resilience can help analysts to better understand how market dynamics can impact the resilience of businesses. This information can be used to develop more accurate forecasts and predictions about market trends.

- **Development of new products and services**.

This work can hopefully help analysts to identify new opportunities for developing products and services that can help businesses to become more resilient. For example, they may develop risk management tools or training programs that can help businesses to better prepare for and respond to disruptions.

Originality/Uniqueness:

Adopts rich, case-Study driven approach to understand HOW an integrated resilience approach is built amongst the key SME sector in Developing Countries.

Suggested Resilience diagnostic framework for Businesses: -

(Table 8)

As an important outcome of the research study on some of the ways resilience can be consciously built by growing organizations, the following scorecard in the adjoining page (Table 8) is suggested. This scorecard can be used, with adaptation, as part of the analyst / researcher or self-assessment toolkit to evaluate the current resilience status, resilience building efforts and gaps where focused efforts may be advised.

The scorecard template criteria depicted here provides a generic template. However, different relative weights for the different category items may be assigned based on the context – the relative importance for the specific business, industry, and risk perceptions. Also, the scale for the extent of reliance building, beyond YES / NO / PARTIAL, may be enhanced with more sophistication based on the perceived risk assessment and initial pilot adoptions, feedback, and reviews.

Resilience Assessment Scorecard

Categories	Focus items	No	Partial	Yes
Resilience-Promoters	Technology / R & D / Engineering Strengths			
- Capabilities	Project Execution Capabilities			
	Innovation Culture / Experimentation / Frequency of Product Launches			
	Extent of Digitalization			
Resilience Promoters	Strength of Founders/Investors/Boards/ Advisors/Management Team			
- Organizational	Brand Strengths - Trust / Reputation / Pricing Power			
	Financial - Group Strength, Liquidity Access, Frugality, Conservatism, Strategic Investments			
	Relationship Strengths - Customer Credibility & Longevity, Market reputation, Networks			
Resilience-Inhibitors	Market Concentration- Domestic / Geographic etc			
	Client Concentration - aka Govt sector focus etc			
	Product Concentration			
	Evolving Business Model			
	Financial Capital constraints			
Proactive Plans	Buffer stocking of Identified Inventories / Bench Strength of Skills			
	Supply Chain = Risk Anticipation & Contingency Planning			
	Process efficiency focus / Yield improvement strategies / LEAN strategies			
	Strengthening Product portfolio to address Value-Chain / Turnkey offerings			
Resource Reconfiguration	Ability to repurpose Manufacturing facilities / Operations			
Capabilities	Ability to reallocate raw materials based on Product synergies			
	Product Platform Extension capabilities			
	Capability to re-assign/re-allocate staff to alternate Products/programs/Functions			
	Muti-functional trained team squads			
Risk Assessment	Assessment of newer, nimbler competition, global players or larger domestics			
Infrastructure	Inflation / Exchange Rate risks			
	Revolutionary new technologies / Changing Customer preferences			
	Anticipation of Changes in Govt / Regulatory frameworks, geopolitical impacts			
Innovative Strategies	Developments of New Partnerships, alliances, collaborations, expertise building			
	Product Premiumization strategies			
	Newer Distribution / Sales Channels			
	Pivot to newer business-lines / counter-cyclicals			
Learning & adapting	Across Org Capabilities & Strengths, Products & Markets (through disruptions)			

Limitations & Potential for Future Research

- Very few such studies have been conducted and the study of Business resilience is still very nascent and thus exploratory.
- A more detailed empirical study on wide cross-section of business across industries based on the propositions identified would be useful.
- SMEs by nature are subject to vagaries of business cycles, however they are a priority for Resilience study as larger companies are somewhat cushioned from significant impact.
- Different kinds of disruptions may have differing sectoral impact – Financial services, Health Services, IT, Education, Petroleum and Energy etc…
- Significant support may be provided by different state and central governments and regulatory bodies cushioning or at least postponing the impact and this may have a moderating role.

Potential for Future Research

The aim is to build a Resilience Index as a method for evaluating businesses for sustainability over a long period of team. The Resilience index could consider both financial metrics (as suggested, Z-score as found relevant and applicable after more studies and validation) and non-financial indicators, as in the scorecard depicted in the previous page. Just as ESG parameters are increasingly being pursued for Business and Investor evaluations, Resilience index too may be a powerful indicator of sustainable corporate Performance.
Some of the interesting research questions and opportunities for detailed study could be: -

- A larger longitudinal study of Business Performance of supposedly resilient firms will indicate not only their ability to survive disruptions buts also whether they are able to re-pivot to a new growth axis. Also, whether they are indeed better performers over longer periods of time.
- What learnings from Banks & Financial Services (who have a more established history of managing Risk and Resilience) can be transferred to non-Financial Corporates? Similarly, what non-financial risk & resilience practices (especially from critical sectors such as Airlines & Transportation, Pharma, Energy etc.) need to be adopted by financial institutions as these risks increase (cyber-security, IT vulnerabilities, payment-frauds etc). A recent McKinsey paper has covered the latter to an extent.
- How can firms implement active learning and adapt/transform from disruptions to consciously incorporate into their strategic priorities to insulate from future challenges and even navigate new growth trajectories?
- How can cognitive, entrepreneurial, and innovative responses (all seen to relate to resilience) combine for a more effective resilience response?
- In an increasingly technology-led world, how can firms build resilience against obsolescence and competitive irrelevance across industries?
- How do out-sourcing and off-shoring improve or detract from business resilience?
- What leadership traits and organizational structures enable or inhibit resilient responses in action?

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Appendix 1: - Qualitative Questionnaire (based on existing literature)

Introduction & Preamble

Business Resilience is a popular word today in Management lexicon in the current pandemic times.

Can you describe Business Resilience in your words? (if needed, Explain the term in broad terms). What do you understand by Business Resilience in the context of the economy in general, your industry and your company in particular?

Nature of your Business

- Can you please describe your current role and responsibilities at ….
- Can you describe your Products (Categories)/Markets you serve and your key competitors?
- How would you describe your Product strengths?
- Can you describe the skills needs to differentiate on Products in your industry? What comparative strengths (People / Tech / IP etc) does your company possess?
- What is your customer-acquisition strategy?
- What is your go to Go-to Market and Supply Chain strategy? What has worked?

Business Challenges faced.

- Apart from the current pandemic which has affected every company in every country, can you describe any other major disruption your company may have faced (Legal, Regulatory, Technological, Competition…
- How did that affect your company (in terms of Revenue/Profits/Market Share) vs the current Pandemic disruption?

Preparedness for Disruption

- How has previous experience of major disruptions prepared you? (Prompt: You may like to think about financial resources, Staff skills, Technology capability, Product Readiness, Market / customers access etc)

During Disruption

- Could you describe how the pandemic affected your company and its operations? (Customer/Market challenges & responses, Product viability, Supply chain & Distribution, Operations & People, Financials)

- What were the initial set of Management strategies/actions that the Leadership team took in the initial weeks, after a few months, and now after nearly 18-months to prepare for the challenge?

- Can you think through some of the MAJOR challenges and how you handled them?
  - Product challenges
  - Market / Customer challenges
  - Inbound and outbound Supply challenges
  - Any new partnerships – conventional or unconventional
  - What key learnings and anything unexpected/surprising
  - Re-configuring / Re-purposing of existing resources and capabilities - how and for what business activities?
  - Manpower actions – Manpower releases, New hire or acquisition of manpower, capabilities etc.
  - Changes in solution offerings - how technology helped?
  - Management philosophies - Efficiencies, Lean Management, Agile, JIT, Customer SLAs, Redundancies, and capacities
  - Leadership Communication / Relationship Management

Post Disruption

- Have learnings resulting from the disruption resulted in any significant Organization / Product / Market / Customer / Process changes?
- Do you see any new avenues for growth because of changes incorporated?
- Have the changes incorporated strengthened the organization from future disruptions – How?

Supplemental and further Probe Questions

- How would you describe your Product Innovation strengths? What key products have been launched over the last 3-years? how does it compare against competition?

- Can you describe the skills needs to innovate on Products in your industry? What comparative strengths does your company possess?

- What is your customer-acquisition strategy? How did they get disrupted, if at all? What changes did your incorporate and how?

- What Go-to Market/Supply Chain innovations has the company deployed over the last few years? What has worked? What skills are most needed for such innovations? Any new Partnerships or alliances built.

- What are the distinctive People Competencies in the company to enable such Product or Market innovation?

- What distinctive Leadership and People practices do you think are necessary during such disruptive times?

- Can you describe your business management planning and review processes for the Medium Term and the short terms (Operating Plans)

Gather other factual, quantitative inputs and material on Company Performance, Financial Metrics over time, Products offered, new products launched etc.

Appendix-2: - Analysis of Detailed Quotes by Interviewees

	Disruption Impact – Quotes (Table 9)
SME-CLEANENERGY	Apart from that we have an issue with the raw material procurement because our raw material is from China which is majorly affected
	"All this rural electrification programs, it depends on the government allocation of funds to the REC. Because of the government priorities, since they announced 100% electrification and everything it was in their priorities list. (During the pandemic) this was given as a low priority "
LEADSWPROD	"We would have been entering a segment where others are not already there and we could have got more business, more revenue through that".
	WFH - "But in our case, it was because we never had that kind of model. So, it started with, like, basic things like basic logistics".
	"The people felt very in-secure in their jobs. Suddenly, for every single decision the local management had to go higher up and seek approvals".
	"There was no communication and I think that is very important when you are dealing with something that is going to disrupt the way he company is working.
	"It very important to send that message down the line that we're here to support you. We're all facing this crisis. But we are in it together. That message was completely missing. "How is he going to fit all the pieces together? Where are the synergies".
	"Sense of doubt and apprehension when we met customers, they were very doubtful about whether this technology business was even going to be a point of focus".
	"Then we face this huge challenge of attrition that was happening along the way. A lot of leadership team left us. So all of those things happened almost together".
	"Which (Tech & Product investments) that's something we should have done and that's an area where I feel we're lagging terribly"
SMEGREENCHEM	We had just completed a fund raiser. That's when we were hit by the pandemic. Honestly, we had no clue what to do with it. Our revenues plummeted to zero.
SMEDENTAL	"Compete with the competition that has no overheads, right?
	"We hit a IP problem with one of the other (competition). So we had negotiated the whole brand change and at that time we already had 100 centers in place with a lot of investment."
	"That had a very negative impact on our fundraising plans and therefore our growth plans."
	"So, everything was disturbed, plus you had employees who would not want to take the risk of coming and treating patients. Voluntary resignations we received".
SMENEWFINANCE	So, we had a large investment that was near final, the deal didn't go through, and hence we had to scale back.

	"The first wave was a longer impact in terms of cash flows. The 2nd wave had larger impact on our customer base. Our capital reserves were getting stretched, our liquidity shrunk and hence we were also not able to grow."
SMESOLAR	So, customer investment, which were planned, actually got delayed by almost a year.
	"Freight containers (from China) ship containers were not available. The container prices have gone up 10 times."
	"When the market opened up, everyone everybody wanted to get the things immediately. So then the premium comes in because of the demand and supply.
	Everywhere there was a gap, or the constraint as didn't have the manpower, the requisite manpower that was required because every factory was running on to the 50% load.
LARGEFOODTECH	"Food orders had gone down to 20 to 30% of the pre COVID, restaurants were also sort of shutting now. And that was a very, very big blow to the company. Near future was very blurred"
LEADSMALLBANK	"We stopped accepting cash. And then people got out of the paying habit. Livelihoods were disrupted because of this. We ended up losing a lot of money, for all practical purposes losing its capital".
	"For two, three months, we did not send his officers to the field. And so money (from collections) kind of dried up ".
	"Political interference is always an issue in the segment".
	"The problem with a moratorium is also this customer base when it has been in the habit of not paying you at a stretch"
SMEBIOENERGY	"From a business perspective, it had really no impact. But we essentially fell in the essential commodity space."
LEADMSMEFIN	"When we were hit by Demonetization, it was a huge impact.
	"FinTech companies, which started taking up the pie from the other finance companies"
	"The first three months were disaster, 50% of the customers could not service their EMI during those few first few months."
LARGELIFESCIENCE	"Employees could not come to work, there was a lot of fear psychosis around, materials supplies were becoming harder, there was a strong feeling that we should shut down operations"
LARGEFINCO	Money Market Freeze - if the market goes into a freeze or there is a huge shock okay for us on the borrowing side, right it is a catastrophic event for us
	In a normal situation, 90 percentage of the borrowers pay, and 10 percentage don't pay. For us 30 percentage of borrowers not paying because they didn't get the salaries at the end of March is a huge shock to our system.

	Prior-Strengths – 'ResiliencePromoters' (Table 10)
SMECLEANENERGY	"If I did not have the R&D Department and trained manpower, I could not have faced this challenging situation and switch over to UV segment. That is the major strength
	So, you are competing with Seager and sometimes they are giving the contract to you via Seager? Yes
LEADSWPROD	People do believe in our approach, being more customer friendly, we are far more empathetic where customers are concerned, and they trust us.
	The second was the faith that the customers had in us. So, I thought it was very important that you kept that credibility going and and and the brand credibility as well. keeping that brand credibility going during crisis period like this setting is very, very important if you want to survive.
	"But then you know our trust in you is still there. We know that you're facing difficult times. We're all facing difficult times, but we can't put our business on hold for that. So we may have to take away a part of the business, but I will give you when you say you're ready, I will give you more business. So don't worry about that." And that happened.
	"You know, you're banking on the trust that you've built over so many years. There were escalations happening. But then somewhere they felt that, OK, these people are are delaying implementations, but they're not going to fail. They will deliver sooner or later,
SMEGREENCHEM	"Building the technology is our core strength. We make a product which are which is green, which can deliver solid performance at an economical cost while being easy to use.
	The other person which is Doc who would always look at the glass half full rather than half empty. we started investing more in science and we built an Advisory Board. We built the management team, which now comprise of people from industry science background, manufacturing,
	"We also have a innovation Committee, which thinks about in terms of new products, which is something which is not linked to any of our current businesses, right.
	"But the way we bring in a solution in terms of the product, the ingredients which goes into it, the way it delivers the performance, the mechanism of delivery, it's not easy to replicate.
	"So, this is one example of how we leverage one mechanism into multiple other end use applications."
	"Value over Volume" - If you continuously and consistently deliver value to customers, then you can have a sustained growth in the market.
	"I would say a symbiotic relationship in terms of working together and then complementing each other (as Founders & Leadership Team)"
	The good part is because of our unique solutions, I would say, success in market, I was also able to attract talent from even large MNC in the chemicals space" .
	"In speciality chemicals, And as I mentioned earlier, also like we don't play price games,"
	"Except for the feedstock, which is the mother culture which comes from US, everything else is domestically so".

	""Mission & purpose itself is the biggest source of resilience as far as I can see". It's been a force of of attracting Key talent and retaining them. We have had almost zero attrition at the top level."
SMENEWFINANCE	"We don't just want to be a lender; we want to be somebody who participates in the journey of this micro-enterprise.
	"The value-added services and even the approach of you know the engagement relationship driven approach. I think we view it as cost of doing business.
	" But in in a downturn, the fact that we were so process driven, it helped with our moving offline to a work from home. It helped maintain our underwriting standards. It helped with our audits, it helped with Diligences from our new investors. The fact that we had them in place really helped us kind of move through this.
	"Learning consistently, it's about refining processes, policies".
	"There were a lot of views that were presented & importantly, I think there is a (regard) if somebody presents a view backed by data. I think the Pilot things worked to learn quickly. Make mistakes quickly".
SMESOLAR	"There was one other way really or very complex project that we did 50 megawatts in year 2013 And that was recently been acquired with one of the larger green infra fund".
	" Business is all about managing relationships. That is separate (from transaction)".
	"So, managing everyone, and I tell you that our lenders were really good, they, they supported us in that period, they understood our challenge".
	"We don't risk customers, we don't let customer down in tough times, they know that we believe in doing a fair job and delivering a good project. And I think that key in bagging he order and surviving us through this period. So whatever orders that we have back there was because of trust expressed by our customers towards us, which has helped us in getting the recurring orders.
	"When you are doing a business is not a transaction. transaction is a short-term relationship is a long term, build relationship. If relationship is there, the business is there. If the transaction is there, a possibility is there just That's it. But it can get faded away also".
LARGEFOODTECH	(We would do) experiments that affected or impacted the line items in the profit and loss account, right. So, what was working, what wasn't working, made some changes, we iterated them.
	"We were so quick to you know, catch the leading indicators and the lagging indicators and so quick to understand you know, where how demand is going to be shaped and which are the industries which are going to give us you know, a surge in demand and which are going to pose as opportunities."
	Provides them with data intelligence, depending on you know, what is it that people are searching for in this area? What is it that people want to eat? What are the price points perfect for this area…"
	"So, the product team literally turned it around in I think two weeks. They were very smart about it"

	"So, to be very honest, this wasn't an idea that we started working on after Covid. There was a team which was already there, something called ...... and they keep coming up with these new ideas. And they keep experimenting with things, both products or like strategy wise"
SMEBIOENERGY	"So XXXXX (Large Global Company) is the largest shareholder, we have a stake of 35% from the XXXXX. So essentially 81-82% of us is Institutionally owned two board directors from XXXXX, one from XXX, one from XXX two independent directors and the original promoter."
	We've been in existence for 12 years. And we've seen the sector evolve in its formal avatar, go through its trough. And now, is going towards its peak. And it's been a very fascinating the radical turnaround.
LEADMSMEFIN	I don't know if I should call it foresightedness or sheer our policy of always keeping some additional liquid funds always. We did not get into any situation where because of lower collection, difficulty in paying our debts or deploying it for the further disbursements.
	"One of the good things .... Where you are, at your home or in your office, from your phone or your tablets which is given to you, sitting at your home you can do the entire transaction including the acceptance of collection, close of business for the day EOD of branch, they can literally their back-office from their home, that was a possibility.
	"So, what helped us here is relationship driven approach with our lenders, that was very, very critical. And then having that friendly connect in the market.
	"We could raise more money not only from the existing lenders, but also new (investors) people that was because we always were transparent, open and very approachable in the market".
	That is where we keep innovating lot of things, and we keep pushing ourselves in that direction (of technology)
LARGELIFESCIENCE	"I mean we have no debt on our balance sheet. I suppose if you had a lot of debt on your balance sheet the situation is very, very difficult".
	"So, what we did right from the beginning, was to focus on also building our own talent pipeline". 3 months of academic content & 9 months they understudy. So that was an investment in talent.
LARGEFINCO	"We talked to (Group) Retail business for logistics support… We basically had the ability to digest a xxxx Crore loan loss. In year two, again, Delta happened. Okay, we again had a loan loss of around xxxx Cr the resiliency of the company to address that
	Alco is the heart of how we should demonstrate the resiliency. We pay play across all the tenors. interbank borrowings, overnight borrowings, short borrowings, long ones…
	in 2014 Long Range strategy plan we said that fine we were not going to be a bank but some day we will become like a bank. So we say that let's have all our processes and policies like a bank because on the business strategy side, we were very clear that it was a bank like strategy, where except for CASA, we will end up doing all the products. So basically, our approach, provisioning norms are similar to the bank. our capital adequacy ratio, we are maintaining like a bank. Our processes and our compliance standards are similar like a bank, even though RBI didn't ask for it.
	For any kind of compliance of this nature, right out of the 20 Odd criteria which RBI has laid down very stringent. I think on day zero, we were meeting 15 Okay, when those upper layer regulations came into the picture, okay. So, one is resiliency is demonstrated by management, vision, and foresight.

	We could change our provisioning norms overnight. Right. We will not maintain a high capital adequacy ratio. etc,,,,, but we believed in Prudent and conservative mgmt.
	Commercial lending book will never be more than 15 percentage it will always be less than or equal to 15 percentage okay. Then second point is what we call it a scale builder or secured asset okay will always be X percentage and our unsecured assets will always be y percentage.
	We came up with a strategy long time back (as to) what are scale builders and what our profit maximisers.
	Last couple of years, you know, we are saying technology is not for disruption, technology is for controllership.
	That's the power of technology okay, we automated so much we may we digitize it so much that at any at any particular branch anybody in any branch guy can process a CD file sourced anywhere – Extreme digitization / Load balancing / BCP / Process Improvement.
	(Backoffice ops) this is the backbone. The confidence level was so high that we are going to go big. Let's invest today in a partner who will never ever go down.
	. And overnight, we changed the strategy. We dismantled the large single vendor., it's a big risk. And we went into tier two towns and cities it took us one year to migrate Okay, to seven different partners, across seven tier two cities.
	Org design is an art and science that things don't happen unless until you put people behind it. Okay. So, one is dollar part of it that means management can give only two - sponsors one is around money, and another is people.
	Now, there's a very famous word in our company, okay. Everything starts with are we aligned? Okay, to the management vision and are we aligned to the strategy of the company? High vitage in SMT - 10yrs plus
	We're rolling out and this is for your resiliency purpose The CEO is saying that no senior management team will be in the same job for more than three years. Okay, it was a huge impact. Last one year has been chaos.
	Relationships is extremely relevant and let me tell you just said we are not exactly a b2b company. But out of the xx million customers we acquired in the month xx million come via a b2b2c model. So, there are two types of relationships, central HQ could do it only with OEMs, HQ had no control over the 200,000 distributors. It is only hats off to the local area sales manager and the sales managers relationship.

	Resilience Inhibitor (Prior Issues) – Table 11
SMECLEANENERGY	"Concentrating mainly on the rural electrification or these solar projects. Company should not depend on the either single business or a single customer. There should be diversification - multiple customers and multiple segments so that even if one goes down, it can be recovered by from the other segment."
	"The cash flow (was a) problem and everything from it during this pandemic situation. So, if we have more of this you could manage well and would be able to report that some higher turnover".
	As of now there is not any alternative Sir. If you see the lithium cells, Sir. Majorly we are dependent on the import from the China
LEADSMALLBANK	"You are concentrating on a segment of the population, which is a little more vulnerable to economic shocks than some of the others. And therefore, when there is an event shock, the problem is magnified many times".
	"I need to reduce my dependency on unsecured lending &. how do I reduce geography concentration"
SMESOLAR	" First there are challenging margins and thereafter the differential itself is 13% and thereafter the competition right".
	"We didn't have the module manufacturing capacity in India, but they also want to do a Make in India".
	" They first impose safeguard duty and they put up the duty on the modules to 20% plus. You can't increase that price to a level where the discom refuses to buy your power".
	"First of all, they brought duties, thereafter, they brought approved list of model manufacturers, where there is no Chinese manufacturer listed now".
SMEGREENCHEM	" The challenge of initially finding the right business models. "
	"Secondly, capital which is one of the resources, not just that's the only resource. But in initial years unless you have money, you can't buy the other resources, right? So that's also a problem, which often restricts growth".
	"Textile industry, because of the global economic slowdown happening from 2018 onwards started going down"
SMEBIOENERGY	"So, everybody thought that the simplest problem is getting the biomass. If I set up a power plant, farmers will come and give it to me. What are they doing with the biomass any which ways?"
	And biomass power plants were operating at capacity utilization factor of 50-60%. So, they obviously become unviable.
	"State discount PPAs. And we all know what happens with state DISCOMS - they are perennially in losses and cannot pay on time".
	" So, for him (the farmer), you know, the thought is, he always has a suspicion as to what is this guy trying to do with me? Am I getting fleeced".

	"You need a different set of equipment. You need rakers and bailors. To transport that you need trolleys. There's a complete ecosystem of equipment that's required by the farmers".
	"It's very easy for cartels to play, to spread misinformation.
	"Process of storage is not going to be simple for biomass, the unseasonal rain falls, there are all sorts of challenges around fire, auto-emissions, which happened".
LEADSMEFIN	"Significant exposure to unorganized sector - e.g., dairy" / Previous Microfinance crisis
LARGEFINCO	22% of our retail liability book is retail fixed deposits okay, but that is time deposits, and we cannot do demand deposits right (not being a bank). And that is essentially the heart that the most worrisome part okay is how will we get our liabilities because we only do asset-based lending,

	Resilience Orientation (Proactive Planning) – Table 12
SMECLEANENERGY	"We, management took a decision to diversify the business. Already by the time itself, we were in the process of diversification to EV segment".
	"The solar project slowdown happened in the 2019-20 before pandemic itself' (so learnings and preparations started)
	"Actually, we have planned in advance. We procured all the raw material required in advance anticipating the solar business, With that help of the existing inventory we could come out of the shortage of the raw materials and some of the components we could procure locally".
LARGEFOODTECH	" Because when the growth has already sort of plateaued. And when you know that from a supply point of view, there's not a lot of goodness that you can get from the universe of restaurants in a particular city, or the country, then you have to create your own brands, because you want to increase your margins irrespective."
	"The company was very proactive in sort of gauging the market trends and where demands are ultimately going to come from".
SMESOLAR	"We put our focus on to the private commercial industrial market, who were purchasing power from the grid at some seven rupees or six and a half or three and we offered that we will be able to sell them at some three and a half to four rupees. So, there was a saving for them and that is where that CNI market has grown. And during that COVID period, since we anticipated much earlier and we were there into that League, the order book of those orders has saved us.
	Approved list of Module Manufacturers (restriction) t was not applied on to CNI market because that was very small at that point of time. That is where that market has taken a big leap and that that has saved many because the margins were there now, right. So those are viable in spite of BCD also the customs duty also in spite of higher GST as well. That market has grown by five times in last two years.
LARGELIFESCIENCE	So, we said we should de-risk from China in the pharma business. We were buying active pharmaceutical intermediates from China. Some they were making and then we're converting it to tablets, capsules injectables. So we actually worked on setting up our own key starting material facility & worked on developing internal processes. So we started from basic chemical, started making 'key starting materials' and from that we started making API's.
	"(Previous Global Financial Crisis) So what we did was to rationalize we didn't shut down anything. We had to go through a major period of rationalization of the pharma business.
	"We kind of prepared so US FDA has not affected us in that sense. But I think as long as you're adequately prepared….
	" And so, we have been focused a lot on making everything electronic, focusing a lot on data integrity, which are some of the issues that the US FDA has.
	" US exports are about 1/3 of our revenues within that what we call the stringent regulatory authority component of the business much smaller as we grow to be much larger. But we have to do it in a way that you not overly dependent on one territory or product and I think that's what we have to deal with".
	So we had the people we had the capacity, we had the capability. We just had to come up with this (ramping up production).
	"You know this high inflation, exchange rate depreciation we've been talking about it internally and constantly looking at cost reduction through yield improvement or scale or so that we're able to deal with the inflationary situation much better

SMEGREENCHEM	"Surfactants is I would say one of the common threads. Similarly anti-microbial properties is another property we get out of this fermented broth. So, this this is how we identify the potential of the business, and we strategically believe that we have to build multiple new verticals.
	"So typically, one, while recruiting itself, we have very clear planning, in terms business outlook. We kind of carefully and rationally add people so we don't kind of go indiscriminately adding when things are going well.
	"We just don't supply products, we actually run the program, we kind of provide operators, we may we provide the dosing systems, dosing, pumps, and etc. And we monitor the program. And we kind of deliver on parameters, say in terms of brightness, or whatever the key performance metrics."
SMEBIOENERGY	"So, we have five economic activities and five business lines in our company. One is a consulting division, where we provide consultancy around bioenergy to our clients, there is a business entity where we do supply chain. There are clients who want this in xxxxxx form. So, we've got a manufacturing plant in various locations in India, xxxxx and then sell to them, there are clients which needs energy solutions. So we do OEM activity that sets forth business line and then there is the asset heavy business where we put in the boilers.
	"And that's the logic of extending ourselves also into a BOOT program, where we now invest into the boiler, which makes it extremely sticky. Now, it's a very painful process for a client to take us out".
LEADMSMEFIN	"We took a call, took a very calculated call and I think, because of that smart call, we exist. To move from microfinance lending to Business Loans".
	"We took another step (because of a huge share of dairy business) which we had to move from a dairy to an enterprise lending”.
	"I think the everything got lifted in value chain. So, the kind of customers which we had, first is the same set of customers got more organized. Second is that we could increase the ticket size with a lot of confidence, understanding what the kind of GST penetration those folks had.
	" If the lending is secure, then the chances are the company's resilience to stress is much better. (Our) the entire portfolio is now secured".
	"We actually started the consciously keeping our headcount in control for last two years. Rationalization happened in advance of this disruption itself. So, there was 100% freeze on hiring".
	"I don't know if I should call it foresightedness or our policy of always keeping some additional needed liquid funds always."
	" We did experiment some of the areas which we thought that can be a huge support potential for us. We now are smarter what we should not do. We had created portfolios from areas we understood what is the kind of expertise which is required".
	"But I'm sure going forward, the digital revolution should reach semi urban and rural in a big way. But as we keep pushing, a lot of such digital initiatives, in a way it helped to for collections.
	(a) The one is being quick to take some decisions (b) And then second was also some inertia in the system to accept what is happening on the ground. And we allowed certain things for long to deteriorate

LARGEFINCO	If the money market freezes then what we should do, if the bond market freezes what we should do, if the interbank buying borrowings freezes what we should do. So, we strengthened our Alco processes.
	Culture cannot be written right, culture gets created by the actions of management which leads to behaviour of people and as large number of people start behaving in a common way and start taking decisions in a common way the culture gets created, okay. So, the respect for operations in this company is so high because the controller ship & controllership culture is extremely high.
	‘Winning regulator support through data’
	Routines-Improvisation-Gut – ‘What decisions which you take during that catastrophic time you will choose and there is pre, that is in between, and then there is a post okay. So, the in between time are two outcomes. One is you are already prepared for it, and it worked out. Okay. Second is you are prepared for it, but you must make some adjustment and third is we had never prepared for it. I think at that point of time the decisions which you take are all judgment calls, okay? They're all based on gut because there is no data supporting it.
	So, it was not only reengineering from the sake of finding NPAs (and improve productivity) in the classical way, which we do. But we attacked it from the financial point of view, we attacked it from an operating expense point of view, we attacked it from a capital expenditure point of view. And we did the reverse way around, okay, if this is the only minimal budget available to you how your business is going to work, then you are pushed back to the wall.
	But then the support mechanism was so available. We were one of the few corporates which bought directly from the Serum Institute, okay. The vaccination program run internally, not only for the x,000 employees, but okay, for including all the family members, including all of roles, okay. The vaccination program would have been for more than 100,000 people.
	So, there is a resiliency quite a lot in our model of LRS, EOP and monthly operating rigor, which I'll say that that is another mechanism, the way we work is also critical with respect to resiliency.

	Strategies during Disruption – Table 13
SME-CLEANENERGY	When we switched from the solar to EV segment and this customer supplier is a common supplier, we approached them saying we are the incubation partner of the Indian Institute of Technology Madras…
	XXXXX is our first (large and reputed customer) who have bought the EV batteries from us by keeping the confidence on us. Even though we are the startup company.
	If you see more xxxx rupees has been invested in the R&D segment for the equipment and manpower….
LARGEFOODTECH	COVID was a perfect day is when for us because the groceries market had to go big, with people not stepping out and deliveries being the only means of you know, getting supplies at home. And so, (we were) very, very quick to capitalize on that demand.
	One is the marketplace model, wherein every Kirana store or like pharmacy in your area is going to be listed on (us). So, he is going to do the delivery bit and get commissions, right, that's one. The other was this dark store model, which we piloted in (2 cities) and we plan to roll out in other cities as well.
	I think I think the whole company was very dynamic in adapting to this change. And it's because that vertical was at a standstill, we decided to utilize our resources in the best possible manner to grow something else. Full points for the execution.
	So, a lot of overheads have come down. So all in all, I think financially (we are) way better off today than it was during peak times.
	I think two parts there's a marketing aspect to it, and there's a product aspect to it. And both were done with the single motive of building a good consumer perception for (our) delivery, right? So talking about marketing, there was a digital campaign in place in around June July. . At a product level, we ensured that every consumer was shown the pickers or the delivery boy’s body temperature which was taken somewhere in the last three to four hours. So, they were made to like, go to hubs and get a temperature check done. And this was updated, this was mapped with to the DE, and it was portrayed on the app. On the app itself, we also showed the temperature at which to food was cooked.
	And we give them our word, that if they can come up with like suggestions or better practices, we will incorporate them in our practices, our business operations
SMESOLAR	. The only solution available was that if the people get sensitized and motivated by themselves, then only they will come up, they will find confidence. So I tell you, myself and my another co-founder, during the COVID period, we used to search that where the lockdown is not there. We used to catch the flight, and used to go there for the meetings into those area where the lockdown was relaxed. And that is how during COVID period, we travelled 85 days. And we stayed into those hotels only. For three months, we were there only into the hotels and meetings.
	The other side of the businesses (Customers) also, right? They were also appreciating if they are we were asking them to come. So, they said that we can't meet into the office, but we are ready to meet outside then. And we were going, and we were meeting people. And that is where we got a chance of converting the orders. And that has given courage to many of our employees that if we are risking our life. So they can also do a certain part, and they can be more cautious and they can do the things.

	Being very truthful to the customer, reduces the chances of problems. Many of the times I have, I have realized that we have committed something, but we have failed. And I was the first person who made a call to the customer, I said this, we made a certain error. So, I don't want to go on a debate that how the error has happened. It is your team or my team. I don't want to go into that kind of debates, but we are lacking somewhere, and we have to correct it and we will correct it.
SMEGREENCHEM	The only customers which were there were some of paper who were buying some product within which the largest segment at that point in time was writing and printing paper. And that, of course, because schools and colleges were shut, there was no demand.
	We had to rally our sales teams to still make the efforts of going places- papermills, mind you, are all at usually very remote locations. So, they had to, even in the midst of a pandemic, leave, go, travel and conduct trials. Other than one or two, other key the management team members or everybody else had to be on the field. They had to be either in the factory or the lab or at the customer's location. We didn't have an option. So, we although we always had that fear that some employee should not be severely affected. But we had to keep going. There was no other option because if we would not continue, that means either we had to again lay off people. And reduce as much burn as possible. What we decided that's not the way forward we can't move forward by reducing. We just must move forward by growing.
	So, because this is the sales force required here is techno commercial, which means somebody who should have experience in understanding the particular industry processes, etc. So textile salesperson, can't do justice doing paper products. But having said that, we're able to build a techno commercial team separately for paper as well. So, we recruited experienced people from the industry and from formed a well experienced team.
	We've never laid off anybody. So, what we focused in terms of doing basics right again, so we kind of continuously pushing the team, and even doing a coaching in terms of training programs.
	How we can keep building market share by acquiring new businesses where we are doing a combination of introducing new products, and also targeting customers where we are haven't penetrated because the underlying factors that we are a relatively new entrant in the market and our market share is still marginal, which means adding still when the market is down, there's significant opportunity for you to keep adding customers with your differentiated value proposition.
SMEBIOENERGY	That's where we thought of giving steam operations maintenance as a service, by which now you're inside the plant of the client, you are operating it for him, you're maintaining it for him, he is already taken those people out of his books, and he's handed over to you,…So he's a lot more dependent on the contract, typically winning contracts between 1-3 years, if you're doing only briquette supply, you're doing PO by PO. We transformed it again, to become slightly more strategic. And that's the logic of extending ourselves also into a BOOT program, where we now invest into the boiler, which makes it extremely sticky. Now, it's a very painful process for a client to take us out.
	Most of our operation team people on the ground come from Armed Forces background. So, you know, they're sort of ready for eventualities and to quickly get into action
LEADSWPROD	So, I think that's what and it's very important to have these kinds of trustworthy people. The second thing that helped me see this thing through is that I said, if the boss, the big boss is not communicating then I have to communicate and that's what I did.
	We've gone through the pay-cuts and employment freeze and all of that just before this and or just at the beginning of the pandemic, all that happened, and people were very insecure. So trying to restore those benefits was the first six months. That was my agenda. So, we brought insurance back in place. We brought some of the employee benefits back in place and I managed to convince the CEO that we must have appraisals and after 2 1/2 years we actually had appraisals and decent appraisals at that. So we almost gave people a hike of around 7 to 10%, which by industry standards is very good. So for the last two years, we've been giving those kind of hikes to people to deserving people, not to everybody

	I think transparency with your clients is extremely important and that's another thing which I did because I knew that just you know faking and telling them that OK, this delivery was scheduled for this date and it's going to happen in the next, you know two months or four.... you can't do that all of that with big clients. And I went to them proactively and told them that, look, this delivery is not going to be happening. So, they said it's disrupting our whole business plan, and we can't put our business plan on hold for your sake. So, I said, you tell me what is it that you would want us to do? So, they said we might have to hive off some of the business to another. but they really appreciated the transparency with which we went and said that.
	Now when I told him that it meant like losing 8 crores of business, which I had, it was there on the table for me to deliver. So, it was a big decision. Should I keep on, you know, giving him these assurances and lose my credibility in the bargain or should I be upfront and element, I I have no regrets of having, you know, gone and told him
LEADMSMEFIN	We started consciously keeping our headcount in control for last two years. Rationalization happened in advance of this disruption itself. So, there was 100% freeze on hiring.
	So, you don't need to worry about your employment is number one, and then comes that we will not have any compensation increase in this year looking at the current situation, as the situation improves, we started always committed towards your goal. So, that it worked in a very balanced way.
	In fact, the management team, we assemble everyday morning, at least for about one and a half hours and evaluate the situation and keep discussing the set of actions we need to take because here, we are expecting certain relief in terms of, you know, financial package from the government. So, we were waiting, but parallelly we said, Let us also create our own package for our customers.
SMEDENTAL	The topmost feature was better utilization of capacity. . From there, we moved to a.single doctor, single assistant and single receptionist model where now we have each clinic having only one resident doctor, one resident assistant and one receptionist. So, you're moving from a 10-12 people clinic, two or three people clinics. So we made changes on our scheduling systems and now we are through with the new model and it's working perfectly fine without any hiccups. So, we were able to convert a lot of our fixed cost into variable costs. We tied up with a lot of specialists who started working with as consultants and while there was a little upside on the variable cost side, but the fixed cost kind of came down making our system a lot more (viable). So, we have people who come as visiting dentists. So, these are consultants.
LEADSMALLBANK	We needed to reduce our dependency on unsecured un-secured lending. And so, we had set ourselves ratios. When we became a bank, or unsecured was about 85%, we said that, we will want to bring down the unsecured to less than 50%.
	Second big goal was how do I reduce geography concentration because all said and done, if there is a blow up in one location, like Assam.
	Third one is ensuring that you had a reasonable deposit base and a reasonable deposit base had three aspects to it. One is quantum related the ID ratio. Second is my concentration. In wholesale, I wanted to reduce that. And the third is professional money. We wanted to reduce that. (Professional Money is) institutions are a lot more sophisticated and the first sign of trouble, they'll pull the money out faster.
	I think with SARFEISI, and all of that, India has come a long way. And so that is a is a segment, Loan against Property, which continue to behave reasonably well through this. So that was for us. That was the aha moment when you said, okay, let's accelerate that. And that portfolio has grown in a big way.
LARGELIFESCIENCE	(Financial Meltdown-Capex cuts) So what we did was to rationalize we didn't shut down anything. We had to go through a major period of rationalization of the pharma business. We had to cancel a lot of orders and try to manage that situation with vendors because we had to go to the same vendors in the future for equipment.

	So the recent past because of COVID. And because of a lot of the consumables companies having a huge demand from the vaccine industry. For examples, you know, syringes, media, which is used in manufacturing, feeds those are huge demand from the vaccine industry because of the ones who are making COVID vaccine. So, we kind of anticipated that and said look, there'll be a run on these companies. So we have placed very long term orders much higher than what we would normally need.
	We did have some issues about equipment. Still remember when critical equipment was to come with the diagnostic business for COVID testing. It was in Singapore and there was no way of bringing it to the finally they said we can bring it to Bangalore. They said fine, so with (our)corporate aircraft. We went to Bangalore and then picked it up. there was a five-day backlog of customs clearance. There was nobody to unload. So my colleagues themselves unloaded it and.... We worked with customs to get it cleared. So I mean you have to go that extra mile when you're faced with that situation.
	You know this high inflation, exchange rate depreciation we've been talking about it internally and constantly looking at cost reduction through yield improvement or scale or so that we're able to deal with the inflationary situation much better.
	Lot of it depends on how intensively you manage on a day-to-day basis. I switch to a daily review because you're better off catching problems as they happen instead of sitting and doing a postmortem asking what happened.
LARGEFINCO	What decisions which you take during that catastrophic time you will choose and there is pre, that is in between, and then there is a post okay. So, the in between time are two outcomes. One is you are already prepared for it, and it worked out. Okay. Second is you are prepared for it, but you must make some adjustment and third is we had never prepared for it. Okay. I think, you know, at that point of time the decisions which you take are all judgment calls, okay? They're all based on gut because there is no data supporting it right.
	We guys worked through full COVID Okay from 2000 to May 2022 onwards, other people who are not working. Right now, we will say that retail financial services is highly collaborative.
	So, it was not only reengineering in the classical way. But can we address we attacked it from the financial point of view, we attacked it from an operating expense point of view, we attacked it from a capital expenditure point of view. You do reengineering, it gives you productivity. And cost saving is an outcome. And we did the reverse way around, okay, if this is the only minimal budget available to you how your business is going to work, then you are pushed back to the wall.
LARGESCHBANK	The company had started digitalization in 2015 But until the push on the GST and then the pandemic happened the acceleration on digitalization did not really gain momentum.
	So, we took advantage of all that, all that thing, because wherever the customer in fact, wish to avail a particular scheme, which is which is which is there either MORAT or ECLGS or restructure. We offered it to the customer subject to that criterion.
	But having said that, we started looking more closely at the IT and consumption because again consumption food, retail, pharmacy, food retail pharmacy, were the particular segments that is there and then power.
	We used this last two years to upgrade (some of our branches). In fact, the CUB has hired three people at a senior executive level during COVID.

	Resource Reconfiguration Strategies (Table 14)
SMECLEANENERGY	Major element of the batteries, 80% is the common compared to solar and EV. So we did not face any major (manpower) challenges in the BMS development side
	Component-wise & raw-material-wise if you see most of the components are the similar components
LEADSWPROD	Today, we have at least 15 to 20 people working as consultants with us. So then that that kind of in a way helps
SMEGREENCHEM	Technology platform we have created, and we also realized that that's something which we can branch out to multiple end use industries. Surfactants is I would say one of the common threads. Similarly anti-microbial properties is another property we get out of this fermented broth, which again we leverage replacement for biocides in application again in leather, textile paper water treatment, etc
SMESOLAR	Third thing the squad, we made our team squad we made the lean team cross functional team
LEADSMALLBANK	We had unsecured business loans, and we moved the entire sales force into the secured lap, the micro lap. And then we worked on pretty fast, to create a scorecard to be able to underwrite these guys and do better customer selection. And obviously, a lot of our work in terms of digitization, using portfolios, bank statements, all of that came together during this difficult time
LEADMSMEFIN	So the entire sales force was asked to collect. We had to take corrective actions in terms of the incentives, and it automatically gets taken care of, because if there are more further sales, so in those situations, what we did was we had an immediate incentive strategy for those same set of people for collections. So, they don't really get hit on their livelihood, but at the same time, we also it goes to serve our purpose of collection instead of disbursement activities
LARGELIFESCIENCE	We anticipated a big rise in demand for a couple of products. So, we said the best way to beat it is to over supply produce more and supply. So, we actually repurposed one of the facilities to make more. and then there was a big uptake as far as (this product) was concerned. We saw a lot of issues with many of the products where there was a run on those..... Didn't want to be in that situation.
	So, we had the people we had the capacity, we had the capability. We just had to come up with this.
LARGEFINCO	I mean, backend to frontend everybody was doing collections. Every front-end employee every mid office was into collections activity. People who couldn't do that, okay, focus more on digital processes
LARGEFOODTECH	But I think these rough months were when the leadership decided to make the marketplace, the grocery marketplace a big thing. So, all our sales managers, who were all earlier dealing with restaurants became sales managers to grocery players and Kirana stores.

	Innovation Strategies during Disruption (Table 15)
SMECLEANENERGY	We management took a decision to diversify the business. Already by the time itself, well, we were in the process of diversification to EV segment
SMEGREENCHEM	So, we decided we will launch the cleaning products online, starting online on Amazon, etc. There were some gaps in the performance. So, which meant there was some work to be done, more to get them to a shape where they could be launched. And as soon as they got back to the lab and they started working on making new formulations and then giving these samples to us and that we use to then finalize the product, launch the product.
	On paper, we realized that recycling mills is is an opportunity where ecommerce started becoming better and better. So, our experience of being at home, ordering everything online, the boxes and you would have also experienced them, they really stink, right? So, we started with that problem statement. Can we do something here? For us, fortunately, at that point in time we could scale that product in that year during the pandemic.
	Sanitizer was an option we could have done, but what we figured is the government norms were to use alcohol-based sanitizer. So, there was of course, this debate as well whether we should, uh, dump that for a while and make whatever else anybody else is making. That it didn't make sense for us. We felt it is not (right), we are not differentiated we can't make a biobased version of it which can meet the norms. And if it's not something that is unique, or our manufacturing is capable of handling something like that. So that means you have to change what the way you're doing otherwise you are just one of them. We felt that's not a great opportunity to focus on.
	Sanitizer was an option we could have done, but what we figured is the government norms were to use alcohol-based sanitizer. We felt it is not (right) , we are not differentiated we can't make a biobased version of it which can meet the norms. And if it's not something that is unique, or our manufacturing is capable of handling something like that. So that means you must change what the way you're doing otherwise you are just one of them. We felt that's not a great opportunity to focus on.
	So, these are things we started working on and then building the portfolio and this lockdown time we really used it to strengthen this portfolio r&d, . So, we went for a larger facility with consolidated and much more systemized semi-automated process, so that we also streamlined so this helped us to address in terms of our supply capability, reliability, product quality, consistency, etc, which also was an issue earlier. So, we really use these two years of period to beef up a back end both in terms of R & D and product portfolio and the manufacturing infrastructure.
SMEDENTAL	So that is when we decided that the only way we could manage this particular problem is we make our own clear-aligners. We did a lot of trial and error but eventually we were the first ones to be able to manufacture aligners in India With a full stack end to end ecosystem, so we are the people who can source out patients, diagnose patients, Identify clear aligner cases, provide the clear aligner cases through an end to end internally designed and manufactured prism and then also follow up with them.
	So, we cannot solicit patients. directly by advertisements. So we had to, we have to innovatively come around because if you don't solicit patient, patients will not come. So, so, so it's a very large challenge. So, we have to innovatively come up with creative methods of reaching out to patients and especially when you want to do proactive dentistry and when you want to reach out to patients when they don't need you. And so that's one of the biggest challenges we kind of negotiated with more creative methodologies on the digital platform. Like you know, influencers reaching out with people for references, doing retargeting onto their direct profiles so that it doesn't look as if it's a mass media campaign.
SMESOLAR	Prior to COVID We were just doing EPC there was construction of power plant and during COVID Since we had time also, we started offering power purchase agreement, land acquisition and all the other approvals which is always a very tricky domain for any kind of company. We appointed certain consultants for land acquisition, we appointed HSA, , we worked with Tri-Legal.

SMEBIOENERGY	So essentially in steel what is required is apart from thermal, the fuel needs to play the role of the reduction agent. So, it needs to have a higher fixed carbon content and also when it goes into blast furnace, the gases that it releases etc need to be contained. So, we've we're working on a gasification process.
	The other part is sort of broaden the pitch beyond industries. So, we are looking at replacing as small a thing as the coal in the tandoor. Each tandoor consumes 30-40 kg of coal every day. you multiply that with this number, we're talking about anywhere between 200 to 300 tons of coal being burned in the heart of the city. (The other idea) is to change cremations. from wood to briquettes
LEADMSMEFIN	We had a digital transformation done with our loan origination, loan management, overall collection saying that everything is going to be mobile based or tab-based solution which people are going to be using. But this pandemic, you won't believe a simple thing like collections, there was a transformation. In everything we did in terms of making digital mode of collection enabled for last four years, I think it was one or 2% used earlier, and just zoomed to 50 to 60 % usage during this pandemic.
	As, as a gesture, they gave away their leaves, some, some gave their 50% of their leaves, some, 30% of their leaves, as a so they just surrendered their leaves. And then it went to a extent I would say approximately 10,000 Odd leaves were surrendered.
	I would say if it wasn't this pandemic, we would not have innovated some products. So, when as I mentioned the Step-Up-EMI, nobody ever thought give an existing customer a smaller EMI and then a larger EMI product. We rolled out a product called Flexi EMI product. Such product innovations have happened, and technology could implement that.
	Now, the next one is about the risk. We started creating our internal models for type of customers. So, when I say type of customers, it is not just dependent on the repayment behaviour of that system or the sector, but that geography, this customer classified together there will be a set off red, amber, green. So, call it as a caution customer or excellent.
	We used to get a lot of inputs from the field team. And that we'll come up with some quick products, which could help the customer to tide over his current liquidity crunch.
	We did we also use this opportunity to redefine our products also come up with some new products, especially in the emergency health products were quickly designed & rolled out
	So, we went deeper, and rural collateral is different from state to state rather than taking a universal approach. We said let's get into state specific and region specific. So that is one of our strengths and USP right. So that helped us to design processes and products which meets a local requirement.
LEADSMALLBANK	And so finally, the out outcome is really a bigger foray into hitherto untapped or underserved segments facilitated by or enabled by a robust scorecard, strong policies, and an entire sales force, which was moved towards this.
	We brought in place some solutions around the moment I open my app I have as a collector, the moment I bring up the customer's account, the latlong of the customer gets captured, and therefore I know that the customer has been visited. So those were some of the pieces that we got a little more sophisticated. What we've also been trying to do is to try and drive the entire non-MFI journey electronically. How do I digitize the whole process? How do I make sure that starting from electronic KYC, which eventually does UIDAI authentication, and completes the journey, giving the credit guy PD mobility device, handheld where the PD mobility app has been installed? Doing a credit bureau pull immediately, reading the bank statements, summarizing them pushing the key aspects to the underwriter. So, these are some of the innovations we've been trying to do some of it with decent success.

LARGEFOODTECH	So, the product team literally turned it around in I think two weeks. They were very smart about it. COVID was a perfect day is when for us because the groceries market had to go big, with people not stepping out and deliveries being the only means of you know, getting supplies at home. And so, we were very, very quick to capitalize on that demand.
LARGELIFESCIENCE	But everything continued. Research continued. We worked on a COVID vaccine. That was one piece of innovation. We said we are a biological company. There's COVID Okay, we might be late in the day that set the basis for a vaccine initiative. We started the vaccine initiative during COVID. We started the gene therapy initiative during COVID. We demolished this corporate office and built a new corporate office during COVID.
LARGEFINCO	it was just simply that out of that fundamental zero-based budgeting exercise, came out with a conclusion that they require a b2b business marketplace, consumer durable financing marketplace. Digital gave us opportunity to bring all those things onto one single roof., fend off digital competition

	New Growth Strategies Post Disruption (Table 16)
SME-CLEANENERGY	Big repivot of Business - more than 90% we're getting from the EV, 10% is from the solar solar in that sense. So now this energy storage systems also we have started from the last one and half year that is for the cell towers.
	We have gone to the three-Wheeler segment too!
SME-GREENCHEM	Reimagining the Water Business - Today we have found a newer ways or better products of in the water business which are now led to successful applications….And there we find now that the business model will suit the products that the application we have today. We have started doing trials this year. We have gotten some early customers on board and we are now trying to scale the business up.
	We took a longer-term view. We said we want we have to build a new factory because it needs to be a nicely built. clean facility which you can showcase to somebody's. Plus you can give better quality and better quality output so we should you have to be ready for the growth.
	We are also putting people with, as I mentioned earlier, the export managers who have significant export market experience in various geographies where they've already worked in those geographies as well. So, this will help us to kind of navigate the market access part of it.
SME-DENTAL	So, we are in the process of setting up our own dental lab, possibly 6-8 months down the line. We will have our own prosthetic centre also. Currently we outsource it from other dental labs.
SMESOLAR	With the same concept of diversified and going horizontally we started consumer durable business - consumer appliances, right. And it's already been that we started in year I would say that we conceptualized in September 2019 before COVID
SMEBIOENERGY	- And so essentially, looking at the using leveraging our rural specialization, rural access to diversify far beyond biomass. The important part is to create multiple touch points with the farmer. At some point of time, there's competition which is going to seek him and will stand next to you. But if that competition will speak to the farmer, once a year, I will be speaking to him 10 times a year. It also builds trust with the farmer, right?
	- Our large shareholder has a strong ecosystem where they bring investee companies together and promote them to work together. So, point in case they brought us along with a leading global auto company where they are invested in) And we are now working with them to see how we can develop synergies between us not in the automobile designing or the production side but for our rural outreach.
LARGELIFESCIENCE	Vaccine was one, working on vaccine now, the other is mRNA several products because the pandemic has shown that mRNA products (and when they were approved, very quick time) can make a difference. I think these are the two areas that is opened as an opportunity for us.
	- In fact, more and more countries are getting interested in creating their own pharmaceutical industry consequent to the pandemic or vaccines industries. Some of them are really thinking about giving benefits for local manufacturing. So, if you must go to the market and take cover of protections, local units, one options to actually set up manufacturing, you don't have to set it up yourself. You can also do it in partnerships, where you provide the technology and that company does the manufacturing, local approvals, marketing, then you can have some benefits.

LARGEFINCO	- So, using technology for resiliency for a scale at a particular point of time basis your prediction is one thing okay and having a digital marketplace model or something **futuristic investment based on changing consumer behaviour** is I think extremely important. Sometimes people mistake it - it is not about investing into a digital marketplace. It is delivering us peanuts or why are we still investing so much. Because we never know when the tilt will come. And when that happens suddenly (we would be ready)
	- Social Commerce strategy. So, it is not that we hate WhatsApp. It's we make it challenging for us.
	- There are only payments as an instrument which is the only sticky product - we are not getting a license for credit card; RBI doesn't give us okay. So, we said we had this burn of xxx crore is good enough. Okay. So at least the customer remains engaged with us versus the loan, he will take one once in one year.

Appendix-3: - Key influential Articles on Business Resilience

	Key Influential articles
1.	Risk, Resilience and rebalancing in global value chains, McKinsey Global Institute, Aug 2020
2.	Getting Business Resilience right – Bain Brief, Feb 2021
3.	Advantage in Adversity: Winning the next downturn, Boston Consulting Group
4.	Resilience in a Crisis – Interview with Edward Altman
5.	Adapt to Endure – Sequoia Capital
6.	McKinsey: - • Something's coming – How US companies can build resilience, survive a downturn, and thrive in the next cycle. • The Emerging resilients: Achieving 'escape velocity'. • Bubbles pop, downturns stop. • Navigating inflation: A new playbook for CEOs • From risk management to strategic resilience. • Finding tomorrow's 'resilients': Propelling companies into the next wave of growth. • Choosing to grow: The leader's blueprint. • The resilience imperative: Succeeding in uncertain times.

Key articles in Business Press: -

Chairman & MD Bajaj Finserv- We like to re-invent the company every 3-5 years.
https://economictimes.indiatimes.com/markets/expert-view/we-like-to-reinvent-bajaj-finance-bajaj-allianz-finserv-every-3-5-years-sanjiv-bajaj/articleshow/83141185.cms

Chairman & MD Bajaj Finserv:- Learnings from the Pandemic & "If Promoters have skin in the game, companies do well"
https://timesofindia.indiatimes.com/business/india-business/if-promoters-have-skin-in-the-game-cos-do-well/articleshow/88244828.cms

Chairman of Hindustan Unilever at the company AGM
https://www.hul.co.in/Images/sanjiv-mehta---agm-speech-2020_tcm1255-552965_1_en.pdf

HUL Chairman: - "Businesses need to create foundations strong enough to weather future storms"
https://economictimes.indiatimes.com/news/company/corporate-trends/businesses-need-to-create-foundations-strong-enough-to-weather-future-storms-sanjiv-mehta-chairman-md-hul/articleshow/77823646.cms

HDFC Chairman on the Pandemic
https://m.economictimes.com/markets/stocks/news/itll-take-india-9-months-to-come-out-of-virus-crisis-deepak-parekh/articleshow/75100472.cms

M&M Chairman: - Anand Mahindra – "We can turn the worst time into our best time"
https://www.livemint.com/companies/people/-covid-19-gives-an-opportunity-we-can-turn-worst-time-into-best-time-mahindra-11596888932133.html

Infosys Chairman – Nandan Nilekani – Annual Report
Thinking Resilience, Thinking Scale