Chaos and complexity: entrepreneurial planning during pandemic

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Abstract
Entrepreneurs are argued to have higher foresight, ability to handle complex situations, and superior planning. This qualitative study attempted to validate these assertions in the pandemic context of COVID19. The pandemic created a complex and chaotic business environment. The information was available to businesspersons of the region before a quarter. Did they show adequate foresight to assimilate information and respond to the crisis? How complex was the situation for planning? What entrepreneurial characteristics were demonstrated? A qualitative study design sought and analyzed business owner’s responses to these questions. Though the findings are not generalizable, it indicated inadequate but reactive response. Secondly, the challenge of reduced cash flow prompted cost cutting as an operational response. The plan of winning trust in transactions was also an operational response. A few perceived pandemic as an opportunity for product innovation. Business owners demonstrated empathy toward their employees. Interestingly, most business owners indicated fluidity and inadequate information as a barrier for planning. Information acquisition, seeking help from network, responding to imminent events, wait and watch, were predominant operational responses, whereas innovation and shifting of sectors were strategic responses considered by few entrepreneurs. The perception of superior entrepreneurial abilities in anticipating events, planning, strategizing, and handling complexity was less evidenced in this study.

Keywords Planning · Pandemic · Qualitative · Entrepreneur · Business owner

Introduction

The World Economic Forum report equated pandemic to a microbial war, global threat, and a new business risk. The increasing number and diversity of pandemics affect lives and livelihood. The report categorized three types of business responses: (1) passive response with wait and watch policy; (2) active response where business has a business continuity plan for pandemic; and (3) advanced response with active surveillance, supply chain management, and public private partnership plan. The objective is to protect employees, assets, and communities (Sands, 2019).

In case of COVID19 (Corona Virus Disease, 2019) pandemic, by the third week of February 2020, the World Health Organization (WHO) recommended national-level disaster management protocols, exhaustive testing, case finding, contact tracing, quarantine of contacts, and social distancing as measures to combat COVID19 (WHO, 2020). Governments across the world responded by imposing curfews and lockdown to curb the movement of public that created inevitable consequences on businesses as well. The first case in India was reported from the southern state, Kerala (Indian student returned from Wuhan), on January 30, 2020. On March 22, India observed a 14-h voluntary public curfew, and on March 24, the Prime Minister imposed a nationwide lockdown for 21 days. The first case of COVID19 was reported in the eastern state, Odisha on March 16, 2020. Odisha was also the first state in the country to go for partial lockdown on March 21, 2020 (Srivastava, 2020). The total time lag was approximately 4 months. Lockdown and shutdowns continued to become a part of public life intermittently for different regions of Odisha, and its effect on businesses was multifold. The micro, small, and medium enterprises with predominantly

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local operations were significantly affected. Loss of revenue, failure to access finance, logistics disruptions, and an unstable workforce were cumulative outcomes.

The context presented a black swan event with extreme complexity for businesspersons. This study intended to understand entrepreneurial response to the context. The following section discusses extant literature on features of entrepreneurial behavior present in the pandemic context.

**Literature review**

Pandemic is a strong disruptive force with uncertainty that changes the context of business. Authors defined uncertainty as “obvious lack of ability to foresee the consequences in the business environment due to insufficient data or the incapability to differentiate between valid or irrelevant information for decision-making (Milliken, 1987).” However, decision-making under uncertainty is the hallmark of entrepreneurship (Knight, 1964). Entrepreneurs respond appropriately during such unforeseen exigencies (McMullen & Shepherd, 2006; Packard et al., 2017). Under such circumstances, entrepreneurs play the role for revival of the economy as well as the community by offering requisite goods and services, reinventing new networks, and ideas for business (Haefele et al., 2020). It is even argued that entrepreneurs deal with uncertainty as a normal routine in business (Mandl et al., 2016; Ucbasaran et al., 2013). Firms recognize crisis as an opportunity for innovation and explore unconventional ways to sustain and compensate for their current losses (Etemad, 2020).

Opportunity recognition remains fundamental to entrepreneurship (McMullen & Shepherd, 2006). Kirzner’s (1997) proposition that alertness to opportunity and creativity requires uncertainty as the context. Continuous discovery for entrepreneurial success requires entrepreneurial response to uncertainty (Shane & Eckhardt, 2003). Business ventures develop and evolve with the market conditions and demands (Sarasvathy, 2001). Being innovative is a prerequisite to cope with situations and innovative firms are better equipped to handle unforeseen exigencies and crisis (Hamel & Välikangas, 2003; Linnenluecke, 2017). Studies reveal that during any turmoil, innovations can prevent business closure (Danneels, 2002; Schumpeter, 1949). Innovation capability is crucial for organization renovation and sustenance (Lawson & Samson, 2001).

Arguably, difficult circumstances evoke emotional outcomes. Interestingly, entrepreneurial opportunity evaluation is related to emotions (Davis, 2005). Entrepreneurial teams with higher level of emotional intelligence (EI) tend to work hard, respond with patience, endurance, and perseverance; they display high levels of tolerance and walk that extra mile during the trying times (Ungerboeck, 2020). The EI has a positive impact on entrepreneurial orientation (Suliman & Al-Shaikh, 2007). It facilitates analytical thinking, understanding, foresight, skills to manage crisis, and builds empathetic attitude which in turn contributes to the overall performance of the firms (George, 2000; Mayer et al., 2001; Sadri, 2012; and Yoder, 2004). Therefore, the use of EI predicts the creation of a competitive and viable venture (Mclaughlin, 2012). EI helps in opportunity identification, risk-taking ability, inspiring and motivating employees, and these factors help building a sustainable organization (Foo et al., 2009).

A crisis requires mitigation plans. Planning has a positive influence for a firm’s survival by coming up with new ideas to respond to market demands, and choosing viable options (Delmar & Shane, 2003, 2004; Honig, 2004). Planning is not necessarily a formal process; it can be information as well (Giones et al., 2020). In a pandemic context, while information continuously evolves, it is more likely to be informal. The thrust of planning in such context is on upsiding the potential and downsiding the risk (Sarasvathy, 2001). Entrepreneur’s focus is on early profits and definite cash-flow (Brinckmann et al., 2011).

Entrepreneurship and crisis management are intertwined and more appropriate in the pandemic context (Williams & Vorley, 2015; Liu et al., 2012; Parker et al., 2012). Managing and coping a crisis points to resilience in entrepreneurship. Resilience is demonstrated specifically in a crisis (Doern et al., 2019). Williams et al. (2017) explain resilience as an organization’s capability to function continuously during a disruptive event in consideration with the resources which were accrued before and consequently used during and in the aftermaths of the crisis. The focus of entrepreneurial crisis management is to curb its negative impacts (Doern, 2016, 2017). Small businesses are expected to respond well because of their adaptability and flexibility (Smallbone et al., 2012). Resilient entrepreneurs also proactively create new prospects with the available resources amidst the difficult and uncertain times (Martinelli et al., 2018).

The concept of bricolage applies to entrepreneurial response to a crisis situation by mobilizing capital from internal accruals and requesting governmental support (Gilbert-Saad et al., 2018; Williams et al., 2017). Bricolage is also associated with creativeness (Weick, 1993). Small businesses tend to be more enduring and creative during challenging times and adversity (Williams et al., 2017). It is claimed that the small and medium enterprises (SMEs) are noticeably excluded from governmental aids and support as they are not bankable or viable for the economy (Kuckertz et al., 2020). Yet, the government’s concern on small businesses and employment prompts several programs and policies particularly during a pandemic (Fairlie, 2020).

**Theoretical basis**

The pandemic situation presented a scenario of chaos and complexity to businesspersons in general, and SME owners
in particular. Bygrave (1993) suggested the possibility of mathematical model for entrepreneurship based on chaos theory. He observed entrepreneurial process as “a dynamic, discontinuous change of state with many antecedent variables sensitive to initial conditions.” He also pointed that there is “an essential non-algorithmic aspect of human action (Bygrave, 1993).” Huu and Kock (2011) strongly argued the need to study how small businesspersons survive in turbulent conditions. They based their study on the chaos theory, and adopted qualitative case study method to build a survival model and proposed that systems self-organize, adapt, and invent ways to survive. The chaos theory and complexity theory was applied by subsequent study that used qualitative method to understand SME success rates (Turner & Endres, 2017). The relationship between entrepreneurial orientation and turbulent environment was also suggested based on chaos theory (Mason, 2006).

The complexity theory helps understanding entrepreneurial organizations, which are complex adaptive systems, especially during a turmoil. It assumes that in-equilibrium and unpredictability as the norm, ventures need to accept change and make it work toward their own advantage for successful ventures during turbulent times (Burns, 2013). Complexity theory is applied to entrepreneurship and has been recognized as a significant theoretical underpinning (Frenken, 2006). Zeynab and Mehrzad (2017) proposed the complexity theory as a theoretical basis for entrepreneurial ecosystem. Fuller et al. (2007) argued this theory can frame the entrepreneurial mechanism for small firms, explain relationships in a volatile environment, and the sustainable performance. The complexity theory is also used in entrepreneurship studies for various aspects such as entrepreneurial characteristics (Huarng & Yu, 2021), nascent entrepreneurship (Lichtenstein et al., 2007), entrepreneurship ecosystem (Aeeni & Saeedikiya, 2019), social entrepreneurship (Swanson & Zhang, 2011; Han & McKelvey, 2016), and motivations and innovation (Woodside et al., 2020).

The complexity theory has been described as a “close cousin” of chaos theory and applied to organizational studies (Johnson & Burton, 1994). Both these theories are also applied to understand various organization functions and decision-making such as financial systems (Wang et al., 2020), resilience and innovation (Li et al., 2021), and industry environments (Ndofor et al., 2018). The pandemic provided a context for an investigation to entrepreneurial decision-making based on chaos and complexity theories.

**Objectives**

The purposive review suggests that a pandemic situation presents extreme complexity and uncertainty in general and small businesses in particular. Secondly, entrepreneurs and small businesses are proposed to have necessary characteristics and flexibilities to respond to a black swan event. Though such claims are based on normal economic or social conditions, it is not substantiated in an actual pandemic situation. This research intended to gather evidences and relate it to existing theoretical propositions though a qualitative study. Specifically, we wanted to observe evidences if businesspersons indicated alertness for opportunity, foresightedness, planning to meet exigencies, emotional responses, and bricolage.

**Methodology**

This qualitative study was conducted in rapid response approach to explore the effects of COVID19 pandemic (Finlay et al., 2013). A qualitative research approach is useful for entrepreneurial crisis management (Linnenluecke, 2017). The case study and interview method is also used in prior studies to ascertain the experiences of the entrepreneurs (Herbane, 2010). The study location was Odisha, an eastern state of India.

The episodes of lockdown and shutdown due to pandemic was expected to affect differently based on if the organization is manufacturing or service based, declared as essential services or not, and small- or medium-sized. Service organizations also differed on the degree of touch required for service delivery. Women business owners were included in the sample to ensure representation. Considering the possible unwillingness to participate, 20 businesspersons were purposively contacted initially to cover possible variations in the sample. The study referred the guidance for qualitative studies available in prior literature (Moser & Korstjens, 2017). Thirteen agreed to participate and share their experiences in the study. Prior consent for recording the telephonic interview was obtained and participants were assured of anonymity. The meeting was scheduled for convenience. Transcripts were shared with businesspersons to validate intended meaning.

Participants described their business operations (number of employees, scale of operations, revenue, number of years of operation, and other details), the sources and time when they came to know about COVID19, actions or plans taken by them in response to the information, current activities or actions being taken by them, and expectation from the government. The interviews were taken during the period April to June 2020. The semi-structured interview did not fix any time limit, thereby ensuring data saturation.

**Analysis**

**The word cloud**

The span of the interviews was from 30 to 45 min. The total duration for the interviews was 517 min with an average
interactive duration of 37:45 min. The total word count of the transcript file for 13 interviews was 17418 words. The collected voice recordings were transcribed verbatim, resulting in 42 single pages of text. A word cloud diagram was drawn in a free web-based software (wordclouds.com) to understand the repeating codes of overall interviews (Fig. 1).

The word cloud diagram indicated themes such as, staff shortage, lack of workers with experience and expertise, financial year, social media, buying capacity, government support, expenses, loss, savings, cost cutting, sale, salary, and the sources of income are frequent across interviews.

**Demography and business characteristics of the sample**

Table 1 mentions the descriptive characteristics of the sample. Out of 13 participants, four (31%) were women. Nine were (69%) from services sector (fashion retail, electronic retail, office supplies, boutique, construction, hotel, salons, gymnasium, medicine distribution) and four participants were from manufacturing (Pharmaceuticals, Mattress, Seafood, Bakery manufacturing). The age range of the business was from 17 to 50 years with an average of 21.1 years. Seven business owners (54%) classified their business as medium scale business; the average employment in the businesses was 66 employees (highest in construction 160, lowest in retail 22). The average turnover of business was reported as 128 million INR (range 20–550 million). Only 3 persons (23%) had heard about the pandemic in January 2020 and others were aware from November to December 2019. Only one person came to know about it from the business circle and the rest knew from news and social media platforms. Only one (Boutique firm) claimed to have taken some prior action after coming to know about the pandemic. To the specific question, “if you could anticipate the situation?”, no one confirmed it. By the time of interview (I:3), the respondents expected the duration of the pandemic effect to be 6 months to 2 years, the average expectation of the duration was 1.13 years.

**Interview summary**

This section describes synopsis of the interviews pertinent to research objectives of prior information, challenges and responsiveness, planning, expectations from government, and learning from the experiences. The interviewee quotes are mentioned in *italics* and the interviewee id (I) is mentioned in parenthesis.

**Prior information and planning**

Even though most of the SME owners had prior information on the pandemic, they describe it as sudden, unplanned, uncertain, stressful, difficult, panic situation, chaotic, fear psychosis, anxiety, trying to stay afloat, immediate and impactful, no scope to plan, wait and watch, and “no scope or time to react.” A businessperson indicated “have to wait and watch how things unfold and take informed decision.” The hotel and restaurant owner found the problem overwhelming and described it as ‘sudden and dramatic,’ and ‘never imagined. (I:7)’ A related response was “the situation does not allow for planning but just to follow suit.” The services sector owners indicated that they “could do nothing about it” social distancing and hygiene issues affected service sector the hardest. The helplessness was reflected in “the situation is too bad and scary. As a business owner, I am unable to plan, think or prioritize anything at the moment.”(I:2). A sense of helplessness was expressed in, “But, things have gone haywire now and we can do nothing much about it (I:11).” Businesspersons expressed empathy when they referred employees as “like our family,” they could sense employees “helpless and depressed,” and “employee morale plummeted without effective work.” The uncertainty was expressed as “unsure how situation will unfold itself (I:1).” The duration of the pandemic was a guess (I:2) and planning during a rapidly deteriorating economic situation was indicated to be a risk (I:2). An entrepreneur asserted that planning cannot be based on assumption (I:2).

**Business challenges**

The lockdown coincided with the financial year end and affected cashflows (I:3, I:11, I:8). Non-primary or non-essential product demand showed higher variation (I:10), the shelf-life and seasonality characteristics compounded the impact (I:3, I:9, I:12). High touch services sector like fitness center and salon services were worst hit (I:9, I:13). Reduced visit to and availability of doctors reduced the sale of prescription drugs (I:5). The cost of in-house services increased to comply with
safety guidelines (I:9). The seafood exports got stranded in ports, leading to delay and non-delivery which, increased co-ordination efforts, and influenced the cash cycle (I:11). A shift to vegetarian food was a medium-term impact (I:11). Gourmet food (bakery) category requires higher variety to generate sales, but faced challenges of variety and choice reduction, product shelf-life, forecasting, and reduction in order size (I:12). Non-payment of franchisee-fee-created cumulative cash-flow problems (I:12). The lease payments for equipment became difficult for construction industry (I:6). The cost of intermittent or partial operation increased loss and the need to save capital became a priority (I:2). The few who continued partial operation realized that customers did not respond to sales pitch due to reduced buying capacity (I:4). A gradual fall in sales became drastic after a period (I:4). The general credit period for the industry extended (I:8, I:10). The time of harvesting and stocking of sea food coincided with the lock-down period, which led to loss of future stocks (I:11). The overall challenge and response need was summarized in “We have to plan, think as well as rethink and move ahead with stabilizing our business during this difficult time.”

Employee impact

Almost all the entrepreneurs found it difficult to pay salary (I:10). Sectors where salespersons have commission as significant part of the compensation quit (I:4, I:5, I:8). An additional role of employees as frontline service provider was to retain the existing customers and bring in new customers, a disruption due to their quitting indicated a permanent shift in future customer base (I:9). Employers responded in a graded manner by initially reducing the labor payments and then final retrenchment. The need to reduce employee cost and retain them was simultaneous but contradictory requirements. Few businesspersons provided daily groceries to their salespersons for retention (I:4). However, the return of employees or labors who migrated home was perceived uncertain (I:6).

Responses to pandemic situation

Beyond the employee cost reduction, businesspersons appealed to the establishment owners for rent reduction (I:9). Businesspersons attempted unconventional service delivery mechanism. Fitness center entrepreneur tried training though internet video meetings (I:13); online purchase and door step delivery were attempted by garment retailer (I:1). Caution in pandemic response was reflected in the statement, “We are dealing with it very slowly and carefully (I:12).”

Most participants underscored the need for planning. General agreement was there about a learning opportunity from pandemic situation. Specific learnings included improved cash in hand (I:8, I:1), new product (mattress) development due to changed customer life-style (I:10), collaboration in supply chain (I:3, I:5, I:8), and online service delivery

| Id | Gender | Business type | Biz years | SME | No of Emp | Turnover (Crore) | When heard about the pandemic | Any prior action taken | Could anticipate the situation? | Expected time to be normal (Yr.) | Heard through? (source) |
|----|--------|---------------|-----------|-----|-----------|-----------------|-------------------------------|------------------------|-----------------------------|-------------------------------|---------------------|
| I1 | M      | Fashion retail store | 10        | Small | 50        | 10              | Jan 20                       | No                      | No                          | 1                             | N, SM                |
| I2 | M      | Office supplies | 30        | Small | 22        | 2–3             | Dec 19 to Jan 20              | No                      | No                          | 1                             | N                   |
| I3 | F      | Boutique and Designer | 45        | Small | 45        | 9               | Jan 20                       | Yes                     | No                          | 1.5–2                        | N, SM                |
| I4 | M      | Electronic equipment | 50        | Small | 50        | 7–8             | Dec 19                       | No                      | No                          | 1                             | N, Stock Market  |
| I5 | M      | Pharmaceuticals | 25        | Medium | 100       | 15–20           | Dec 19                       | No                      | No                          | 0.5                           | SM                  |
| I6 | M      | Construction | 30        | Medium | 160       | 50–60           | Dec 19                       | No                      | No                          | 0.5                           | N                   |
| I7 | M      | Hotel | 12        | Medium | 60        | 10–12           | Jan 20                       | No                      | No                          | 2                             | N                   |
| I8 | F      | Medicine | 8         | Medium | 60        | 12–15           | Dec 19                       | No                      | No                          | 0.25–2                       | N                   |
| I9 | F      | Salon | 7         | Medium | 60        | 7–8             | Nov to Dec 19                 | No                      | No                          | 1–2                          | N, SM                |
| I10 | F   | Mattress manufacturing | 13        | Medium | 60–70     | 10              | Dec 19                       | No                      | No                          | 1                             | N, SM                |
| I11 | M    | Seafood | 25        | Medium | 100+      | 15              | Dec 19                       | No                      | No                          | 1                             | Business circles  |
| I12 | M    | Bakery | 10        | Small | 55        | 5–6             | Nov 19                       | No                      | No                          | 1                             | N                   |
| I13 | M    | Gym and fitness center | 9         | Small | 32        | 2               | Dec 19                       | No                      | No                          | 1                             | N, SM                |

SME, small and medium enterprise; N, news: SM, social media
Expectation from the government

The government declared the banks to have moratorium on payment of interests. However, the interest calculation during the period was not barred. Businesspersons expected a waiver on interest calculation during pandemic, the lack of clarity confused them (I:2).

Participants indicated mixed expectations from the government. Business associations did appeal to the state government for one time help for payment of salaries, utilities, rent, and the like along with soft loans and credit guarantees (Singha, 2020). The call of the hour is for government to come up with some fund boosting strategies and financial packages to sail through this low phase (I:1, I:2). The government can help with overheads by announcing fiscal policies and financial assistance. Our savings will be used up if government does not provide any help (I:3). On the contrary, the pharmaceutical businessperson did not expect any support (I:5). The beauty industry is not one of the major agendas for the government and its agencies (I:9). As such we do not have much expectation, but the government must do something about middle strata who in turn can help the business owners (I:2). I personally do not expect any aid or support from the government (I:4).

There were many schemes announced by the government of India. It included extension of time for compliance, correction for any defaults during the period, waiver of penalty for delay, allowing of withdrawal of non-refundable advance by Employee Provident Fund members, moratorium for payments, and creation of control room for monitoring transportation issues (MSME, Govt. of India Report, 2020). The SME contributed by producing COVID19-related goods, donated to various relief funds, and participated in local relief measures. Participants of this study indicated three distinct proposition about the government’s role, onetime financial support or waiver, no anticipation, and support to the end consumer. The policy and execution was doubted when a participant indicated that a specific industry is not in the government agenda.

Learnings during pandemic

Pandemic posed learning opportunity for businesspersons. They relooked into customer behavior, employee engagement, product and services, forecasting, business operations, industry structure, network, institutions, government, and the public in general.

SMEs operate in a limited market span. A businessperson reflected that SME customers can be categorized by local/non-local and regular/occasional. The local and regular buyers are helpful in a pandemic situation (I:10). Thus, businesspersons should cultivate the local and regular customers for sustainability. Participants emphasized the role of managing finance, building reserves, and surpluses. One participant indicated that SME owners transfer money for personal consumption and have to arrange money back to business (I:10), indicating a lack of a separation of business entity and owner in SMEs.

Irrespective of size of the organization, employee costs were reduced by layoffs, reduction in salary even for permanent employees, more so in SMEs. Businesspersons were also worried about retention and return of employees who migrated home. The loss of trained employee, possibility of retaining new employees, switching of employees to competitors, or employees becoming competitors by starting their own business (specially in service sector) were perceived to be major challenges or costs to be incurred. Businesspersons emphasized the role of employees to retain customers.

Discussion

There is a significant need to plan for crisis and emergencies as small firms with suitable planning to manage crisis sustain and recoup better (Muñoz et al., 2019). As evidenced in the study, businesspersons indicated that uncertainty in the context prevented them to plan. This position is substantiated in prior research as well (Zhao & Lee, 1993). Usually, the planning horizons, freezing proportions and methods, along with re-planning periodicity are fixed under manufacturing planning conditions. The master production schedule is frozen to reduce instability in material requirement planning (MRP) systems. Zhao and Lee (1993) indicated that under demand uncertainty conditions forecasting errors significantly increase total costs and schedule instability and reduce the service level in a multilevel MRP systems. Secondly, the extension of the planning horizon worsens material requirement planning performance. Thirdly, though the schedule instability is reduced, it increases cost and reduces service level. Finally, a reduced re-planning improves system performance under stochastic demand conditions as well. A rolling planning horizon achieves a service level target under stochastic demand conditions (Sridharan & Berry, 1990).

Literature indicates substantial differences in planning of different business functions, especially during uncertainty. While manufacturing decisions are based on “here-and-now,” the logistics decisions are usually “wait-and-see” mode (Gupta & Maranas, 2003). Different business functions need different planning approaches.

The classification of SME customers into broad category of geography (local and not-local) and frequency (regular vs. occasional) indicates that the local and loyal customer base is the mainstay for SMEs. A prior study on sourcing context indicated a mix of domestic and global sourcing to reach the
optimum profit but a larger portion of domestic sourcing helps if there are greater level of demand uncertainty, information and manufacturing technology, local subcontractor clusters, and long-term relationship with a subcontractor (Jin, 2004).

The exclusion of SMEs from governmental aid and support is variously expressed by businesspersons, in this study, as “policy confusion,” “conveying the need,” “call for government action,” “no expectations,” “not being in the government agenda,” and a suggestion that government should help ultimate consumer to maintain the buying power. These responses corroborate with prior research that SMEs are excluded from governmental policies and programs (Kuckertz et al., 2020). Furthermore, the policy responses during the pandemic, for SMEs are mostly seen as work in progress or just announcement for the public (OECD, 2020). Shiffer & Weder (2001) also observed size based policy biases against SMEs. However, the government-based diagnostic and support services in conjunction with public loan financing options help SMEs during a crisis (Park et al., 2020). A lack of clear cut guidelines and policies in the government incentives and schemes, especially in the developing economies, is an identified need during chaos and crisis (Alkahtani et al., 2020).

This study also indicated a lack of clarity on interest moratorium and waivers. Similarly, a study elsewhere pointed to the fear of bureaucratic hassles and establishing eligibility (Bartik et al., 2020). Businessperson’s statement points the exclusion to the lack of clarity in policy and execution as well as to an extent a self-exclusion.

There is little separation of promoter and business in SMEs. A participant indicated diversion of fund for personal use but found it difficult to plough back during the pandemic. On the other hand, the International Financial Reporting Standard for SMEs was also found irrelevant (Aboagye-Otchere & Ageibor, 2012). It is also pointed that the characteristics of the enterprise is derived from the characteristics of the entrepreneurs, indicating substantial overlap (Zaridis & Mousiolis, 2014). Better performance is attributed to a highly concentrated ownership structure of SMEs (Mehrotra et al., 2021). However, scant literature is available on the effectiveness of crisis response of SMEs and its structure, particularly the proprietorship management, and family ownership.

The complexity of the context requires additional resource intensive planning tools, which often require substantial expertise in multi criteria decision-making framework that are not available to the small-scale businesspersons. There is no formal model to understand how small firm owners plan and the key factors which influence their decision-making. The result presents various similarities and participants are of similar belief about the major factors facilitating planning and crisis management. Further research and study in this domain will definitely be purposeful and with more participants, more factors and data saturation, an actual model of Crisis Planning for Small Firms may suitably materialize thus adding to entrepreneurship literature.

Crisis situation and SME response to employees presents contradictions worth future research. Mass layoffs and closures occurred few weeks into the crisis (Bartik et al., 2020). Literature indicates retrenchment should not be a general remedy for firms in crisis (Rico & Puig, 2019). Across-the-board retrenchment, as reflex response, is not a solution to insolvency (Rico et al., 2020). Avoiding employee layoff preserves the core values and improves sustainability (Ketprapakorn & Kantabutra, 2019). Implementing workplace flexibility practices (WFPs) is an alternative (Whyman & Petrescu, 2015). Other researches indicated focus on core business, job cuts, and reduction of working time as a crisis response (Kraus et al., 2013). Participants in this study reported an emotional link with employees, investment on employees, and an attempt to retain them with subsistence payment while defending layoffs to reduce cost. SMEs are not the best paymasters, do not get the best employees and operate with low employee skill level even with wider unemployment situation. Given these complexities, the research question is whether layoffs by SMEs is an optimal crisis response.

**Complexity dimensions**

Based on the interview responses, we present a complexity dimension matrix influencing planning in a crisis (Table 2). Primarily, five dimensions information characteristics, importance vs. urgency, impacted business functions, controllability, and planning feasibility influence the planning responses by business persons.

**Limitations**

Findings of qualitative studies are debatable due to sample selection and adequacy. Admitted biases include prior contacts as participants and their acceptance to participate, which, to some extent was avoided by anonymity and saturation during interviews. It is rare that participants of this study discussed an exhaustive list of crisis responses possible or taken by other businesspersons elsewhere.

**Future scope of research**

We realized that the extant crisis response literature for SMEs is scant. Existing literature focused on endogenous events but not much on broad contextual crisis such as pandemic. Given the lack of expertise and tools, research is yet to come up with applicable heuristics for planning in general and crisis planning in particular. The task is daunting, given the chaos and complexity of a crisis. The pandemic complexity table
presented in this study can bring out several meaningful research questions. Cash flow management, employee policies, forecast, and product mix decisions are some of the pertinent crisis management research areas. Public and government response to SMEs during a crisis can serve as a meaningful perspective. With multiple waves of COVID19, the short- and long-term responses can redefine sectoral preference and perceived risk, perceptions towards these risks and subsequent restructuring of investments can help entrepreneurs and SMEs as well. This research also calls for adequate and substantial clarity of government policies, and implementation methods avoiding bureaucratic hassles. A knee-jerk reaction and shallow policy may have adverse impact on entrepreneur’s morale and subsequent development of this sector.

**Conclusion**

This qualitative research depicts the challenges faced by the SME owners in the pandemic. Secondly, it probed into various demonstrated entrepreneurial characteristics such as foresight, planning, and emotional intelligence among others. SME owners’ anticipation from government was also investigated. We presented a model representing complexity dimensions and indicated future research directions.

Though businesspersons of this study showed emotional reactions indicating lack of far-sightedness, agility, planning, and other classic entrepreneurial characteristics, extant literature indicated “no-plan” as a less costly option in an extremely complex and multi-dimensional pandemic situation. Entrepreneurs faced innumerable issues ranging from monetary crunch, inability to plan due to unstable information, shutdown of businesses, burden of loans, lay off of employees, and trained workforce not wanting to return because of the fear psychosis, besides the apprehensions due to the onset of the pandemic. However, businesspersons could increase their learning, sought cooperation, understood product innovation need, and demonstrated empathy apropos of entrepreneurs. The localization of supply chain and customer base can substantially help the SMEs during a pandemic.

This study finds five dimensions such as the information characteristics, degree of urgency to act, impacted business functions, controllability, and the planning feasibility lead to the planning responses. Variations along these five dimensions lead to differences in responses to a complex and chaotic situation.

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**Author contribution** MDP took up the execution of the study including conducting interviews, transcript preparation, analysis, initial write up, and review. BK conceptualized the study, analyzed, reviewed, and updated the write up accordingly. MCP took up the analysis and manuscript preparation. All the authors read and approved the final manuscript.

**Data availability** It was a qualitative study and audio recordings are available.

**Declarations**

**Competing interests** The authors declare no competing interests.

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