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Revising entrepreneurial action in response to exogenous shocks: Considering the COVID-19 pandemic



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ARTICLE INFO

Keywords:

COVID-19

Entrepreneurial action

Frugality

Social support

Planning

Corporate accelerator

ABSTRACT

With regards to the ongoing impact of the COVID-19 pandemic in the domain of entrepreneurship, we offer research-based evidence and associated insights focused on three perspectives (i.e., business planning, frugality, and emotional support) regarding entrepreneurial action under an exogenous shock. Beyond the initial emergency response that countries around the world have taken, we argue that it is time to revise entrepreneurial action guidance in such a context. Our aim is to highlight ways that entrepreneurs can take action in light of the current COVID-19 pandemic. We position our insights to be relevant to both researchers and practitioners coping with an unprecedented situation that has catastrophic consequences both economically and socially.

1. Research context

The COVID-19 outbreak began with the first reporting of an unknown virus in December 2019. Within months, the outbreak had become a global crisis affecting the world both economically and socially. By March 2020, the World Health Organization (WHO) had declared the COVID-19 outbreak a pandemic.

The absence of short-term medical responses to the virus (either as vaccines or treatments) has necessitated the use of lockdowns and social distancing restrictions as government tools to reduce the transmission of the virus across the population. However, the lockdowns (including, in some cases, the introduction of border controls and/or travel bans) have triggered an economic activity disruption that does not resemble any such prior demand or supply crisis. Beyond the temporal freeze of activity, there are growing concerns about the long-term effects originating with the need for lockdown protocol extensions (increasing its total duration and impact), as well as on the need to sustain behavioral rules such as social distancing to reduce the risk of new contagions.

While the crisis affects all types of economic activity, the public support programs tend to prioritize and protect established organizations. And, unfortunately, the priority for the public institutions seems to be to reduce the risk of bankruptcies and destruction of

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<https://doi.org/10.1016/j.jbvi.2020.e00186>

Received 25 May 2020; Received in revised form 2 July 2020; Accepted 4 July 2020

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jobs, while not as much to promote innovation or entrepreneurial activity. Thus, perhaps not surprisingly, there are a myriad of emerging organizations that are not in the priority list of public support.

This gap in the public support response was made visible by the managers of one of the largest innovation platforms in Europe — that serves as a facilitator of relationships between startups and corporate clients — Startup Autobahn powered by Plug & Play (Plug and Play Germany, 2020). They expressed their concern that these emerging organizations are left behind as they often are not yet visible to policy makers or the public—put simply, entrepreneurs in the process of launching their first product or service or striving to start scaling-up after attracting their first customers are not receiving the support they need.

The Startup Autobahn program has, since 2016, supported over 175 startups to work with 30 corporate partners all over the world, brokering more than 250 collaboration projects between them. The COVID-19 crisis, during the first months of 2020, broke out as their 8th intake program was starting. Even though the organization quickly responded to the urgent call to move their networking activities and program launch to a digital environment, this was the first of multiple new challenges that were starting to emerge.

As an innovation platform between startups and corporates, Startup Autobahn is uniquely exposed to the reactions of both established corporate partners and emerging startups. Given the intensity of the economic activity freeze across Europe, corporates have shifted their attention to internal operational challenges, leaving their future innovation projects temporarily unattended. To address this reaction, Startup Autobahn is working towards encouraging startups to make the cost-saving or productivity gains of their products and services more visible. The objective is to help to increase the alignment with what have become corporate priorities during this crisis as well as in the post-COVID-19 context.

In this context, with corporate partners, startups are facing two unique problems and one dilemma. First, for some of them, the current situation has interrupted the core of their activity as it has postponed the co-development of their product with an industrial partner. Second, it has exacerbated their uncertainty on the commercial future of their project and on needed funding opportunities. Third, it has created a dilemma as to whether the disruption produced by COVID-19 is substantial enough to have to reconsider their business strategy or if it will mostly impact how they communicate and justify the value of their product offering.

Startup Autobahn has made adjustments to try to address the first problem, postponing some of the key events like the demo day (to give more time to cope and respond). They are also working on the second problem by trying to secure corporate pilots for the startups and exploring alternative funding options for them. But, the dilemma for the startups remains, how should they change given the impact of this exogenous shock? Should they pivot? If so, to what extent? Such questions require further consideration.

For entrepreneurs, the response to an exogenous shock like the COVID-19 crisis requires an initial evaluation to understand the current phase of the crisis (Lettieri et al., 2009): are we still in the in-crisis emergency response phase?; Are we already transitioning to a recovery post-crisis, situation? Or, are we preparing for future unexpected shocks? Entrepreneurial action must be situated in the entrepreneurs' assessment of the opportunities and environment where they operate.

Thus, the dilemma for entrepreneurial action is not just whether a swift shift in the business model might be good enough, as some investors suggest (Guzman, 2020). But, it is more so to understand what it means for their organization (inside) and their environment (looking outside), before, during, and after adjusting their plans or business model.

2. Insights on entrepreneurial action under an exogenous shock: three perspectives

Studying entrepreneurial action under uncertainty is at the core of entrepreneurship research (Bylund and McCaffrey, 2017). However, amid the COVID-19 crisis, the mere attempt to discern what responses constitute a rational human action (Brown et al., 2018) versus what are impulsivity reactions (Wiklund et al., 2018) becomes exceedingly challenging. The current crisis somewhat resembles situations described by researchers studying the improvisational behaviors of entrepreneurs in the aftermath of a natural disaster (Villar and Miralles, 2019; Williams and Shepherd, 2016a), where entrepreneurial action (productive or unproductive) occurs regardless of the difficulties posed to gathering and processing information on the different factors that would favor an organized, rational, response.

From the standpoint of an entrepreneurial activity stakeholder (in our context the Startup Autobahn), one key question is whether entrepreneurs will benefit from planning to produce an organized response, and whether having a plan will be enough for them to navigate through the crisis. Entrepreneurship research has engaged in deep discussions on the value of planning in contexts of high uncertainty. Despite the methodological challenges involved in advancing in this research question (see Delmar, 2015a, 2015b and Honig and Samuelsson (2014)), planning processes could have a positive effect on survival (Delmar and Shane, 2004, 2003) and on venture performance if it is not overdone (Chrisman et al., 2005). However, it is less clear if this effect holds across new ventures in different development stages or under different levels of (individual) perceived uncertainty (Brinckmann et al., 2010).

Overall, multiple questions remain unanswered with regards to how entrepreneurs can respond to the ongoing COVID-19 crisis. To provide insight here, in this Rapid Response contribution, we translate research insights from: (1) business planning (e.g., Brinckmann et al., 2010; Brinckmann and Kim, 2015), (2) frugality behavior (Michaelis et al., 2019), and (3) entrepreneurs' social support (Kim et al., 2008; Klyver et al., 2018). We integrate these complementary areas of research with the crisis response phases: in-crisis, post-crisis, and pre-crisis (Lettieri et al., 2009) to propose a guiding framework for entrepreneurial action under an exogenous shock. The framework can be used as a toolbox, taking the insights from each perspective separately or in combination. In doing so, we highlight individual aspects of each that impact the entrepreneurs' perceptions, preparation, and potential response(s) to this unexpected crisis. Our suggestions aim to help entrepreneurs and entrepreneurial activity stakeholders regarding their ongoing crisis response(s) as well as to prepare for a future crisis. We discuss the specific considerations that this context generates for prior research insights and propose practical implications to rethink contemporary entrepreneurial action.

2.1. Processing the shock: the contribution of planning activities and resource management in uncertain contexts

Business planning activities have key functions for entrepreneurs who are in the process of creating their new ventures either as independent startups or for existing companies (e.g., [Brinckmann et al., 2010](#); [Delmar and Shane, 2003](#)). The planning process can be internally focused to facilitate insights for an individual entrepreneur, a founding team and/or the venture's early employees, or the planning process can be more externally directed to provide insights for current or potential investors or other key stakeholders like suppliers or sales channel partners.

For entrepreneurs, planning can help them in evaluating business opportunities and determining appropriate courses of actions. Planning can identify alternative scenarios and enable entrepreneurs to choose the most attractive option at a given time ([Delmar and Shane, 2003](#)). As time progresses and a venture's situation changes, planning facilitates the continuous monitoring and reassessment of the situation and the best option(s) going forward ([Gruber, 2007](#); [Honig, 2004](#)). For persons external to the firm, planning can provide insights regarding the overall business opportunity in terms financial modeling and market assessments. Moreover, the quality and quantity of the business planning activities by the founders can provide valuable cues about the characteristics of the founders ([Honig and Karlsson, 2004](#)).

Much of the focus in academia and practice in past decades has been directed towards more formal business planning activities such as the creation of extensive business planning documents. However, there is now a sharper focus that has shifted almost entirely towards more informal business planning activities such the presentation of shorter pitch decks and/or more detailed extended slide decks and spreadsheet analyses of financials in various degrees of detail. Founders, investors, and other stakeholders now use these more informal business planning activities to facilitate their decisions ([Brinckmann et al., 2010](#)). But, the question now is whether this approach works in the current context.

The COVID-19 pandemic was a largely unforeseen event that was not considered in ventures' business planning processes or outcomes, regardless of how formal or informal those efforts were. Even for those founders and investors focusing on scenario planning, such a specific event or similar scenarios were typically not considered. In their risk-modeling, more frequently occurring (and more likely) scenarios were considered such as delays in product or service development, delays in the sales processes, or core customer churn. By and large, the COVID-19 economic crisis was an *unknown* ([Loch et al., 2008](#)) which appeared rapidly and that poses an existential threat to many ventures.

For the founders, investors, and actors like Startup Autobahn, COVID-19 means that they need to re-engage and fundamentally adapt their business planning documents swiftly. Given that the resulting economic crisis has few historic parallels, high levels of uncertainty and risk limit the guidance that the any planning process affords. It seems likely that, as the economic context changes rapidly, the frequency of planning re-assessment, and adjustments, needs to increase until a more stable environment is reached. However, if the business planning takes substantial time and resources (which, in the current context are needed for potentially more value-creating activities such as speeding up new product development, closing customer contracts, or directly interacting with investors) this could represent a, potentially, non-trivial expenditure of effort. Hence, entrepreneurs need to carefully consider the appropriate degree of business planning needed and the form of those efforts ([Brinckmann et al., 2010](#); [Chrisman et al., 2005](#); [Loch et al., 2008](#)). Given this dynamism, working with less formal and more concise forms of planning appears advisable.

In addition, the literature highlights that planning efforts can be directed to focus on upside potential (e.g., by aiming for outlier revenue growth), and/or the focus can also be on limiting downside risk ([Sarasvathy, 2001](#)) and assuring early profitability and positive cashflow ([Brinckmann et al., 2011](#); [Grichnik et al., 2014](#)), using an overall satisficing orientation ([Simon, 1955](#)). In the current context, entrepreneurs may aim to opt for more cautious growth targets given the increased risks and uncertainty in the market and greater financial resource-acquisition constraints. Yet, lowering growth targets may prove disadvantageous when seeking external investors (e.g., by professional investors such as VCs) who likely have become more selective and can pick from a greater number of promising ventures following the COVID-19 crisis. Though governments appear to focus on providing additional financing to compensate for shortfalls and constraints in the current financing domain, founders, supporting actors, and investors might best be served to focus on alternative financing forms ([Brinckmann et al., 2011](#); [Grichnik et al., 2014](#)).

2.2. Looking inside: the power of frugality in times of economic turbulence

Frugality is an individual disposition associated with entrepreneurs and defined as, "one's general preference to (a) conserve resources and (b) apply an economic rationale in the acquisition of resources (i.e., assessing the opportunity cost of newly acquired resources)" ([Michaelis et al., 2019](#), p. 1). The idea of frugality has persisted over time as a means to reduce consumption while simultaneously building wealth in periods of economic turmoil ([Michaelis, 2017](#)). For example, frugality was the primary mantra conveyed by the U.S. government to help the country recover from the economic hardships experienced during and after World War II (c.f. [Witkowski, 2010](#)). With respect to industry, the concept of frugality has permeated the underpinnings of business ethics since the 18th century. Benjamin Franklin's essay *The Way to Wealth*, published in 1758, highlights frugality as the means to a successful business as he stated, "So much for industry, my friends, and attention to one's own business; but to these we must add frugality, if we would make our industry more certainly successful" ([Sparks, 1844](#)). Still today, some of the most successful entrepreneurs have attributed their success to their frugal disposition; e.g., Warren Buffet and Jeff Bezos, the founders of Berkshire Hathaway and Amazon, respectively ([Elkins, 2017](#); [Montag, 2018](#)). The main point is that frugality, while a timeless concept, may be a particularly powerful mindset in helping entrepreneurs to bounce back from the economic hardships caused by the COVID-19 pandemic.

Frugality is a commonly understood term, but one that many still confuse with the concept of being cheap or miserly. In fact, research suggests quite the opposite, "... that frugality is not pure deprivation but reflects short-term sacrifices in buying and using consumer goods to

achieve idiosyncratic longer-term goals” (Lastovicka et al., 1999, p. 87). Recent research in the entrepreneurship literature suggests that the quality of being frugal predicts resourceful behaviors that are more often displayed by entrepreneurs (i.e., bricolage and effectuation) (Michaelis et al., 2019). Similarly, frugality represents an individual orientation towards self-sufficiency (Westacott, 2018), which aligns well with the concept of resource bootstrapping in entrepreneurial ventures (Winborg and Landström, 2001). According to Rutherford et al. (2017), p. 676, “Bootstrapping is taken to convey self-reliance, and a specific kind of self-reliance (i.e., autonomy in accomplishing the task at hand).” In sum, the disposition of frugality aligns well with the idea of being resourceful (cf. Bradley, 2015), thus having a frugal disposition may serve to ameliorate the impacts of COVID-19 on small and emerging new ventures.

Resourcefulness is an important quality of entrepreneurs (Bradley, 2015) that helps individuals bounce back after economic resource shocks (Williams and Shepherd, 2016b), stimulates the creative behavior of making-due with existing resources available to build viable new products and services (i.e., Bricolage: Baker and Nelson (2005); Witell et al. (2017)), and facilitates opportunity recognition through effectuation behaviors (Saravathy, 2001). For example, the use of effectual logics may be more relevant in times of economic turmoil as environmental uncertainty is high, thus suggesting that a carefully thought out and executed business plan (i.e., causation logic) may be disrupted in an instant. Without the ability to see multiple paths forward and pivot (Kirtley and O’Mahony, 2020) with respect to existing resources, entrepreneurs who are less frugal in times of economic uncertainty may be at a substantial disadvantage in both recognizing and seizing new opportunities.

2.3. Looking outside: reconnecting and alleviating through emotional support

Besides adjusting the planning processes and exploring frugality as an advantageous behavior in this turbulent environment, we next explore how social support can be a conduit for much-needed personal and professional connection as the crisis continues.

Prior entrepreneurship research shows that entrepreneurs’ social networks are important for performance (Stam et al., 2014) because they provide access to valuable resources (Clough et al., 2019). One important resource exchange in social network is social support, including information support and emotional support (encouragement, empathy, closeness, etc.) (Kim et al., 2013; Klyver et al., 2018). In fact, among entrepreneurs who experienced the economic downturn of 2008, greater contact with social ties buffered the impact of economic stress on depressed affect, which in turn reduced entrepreneurs’ intention to withdraw from entrepreneurship altogether (Pollack et al., 2012). More generally, social support shapes individuals’ performance through combinations of four mechanisms: positivity catalyst, positivity enhancer, negativity buffer, negativity exacerbator (Bavik et al., 2020). During a highly stressful and uncertain situation such as COVID-19 with lockdowns and physical distancing, it remains reasonably easy to obtain informational support with modern technology.

However, in such situations, emotional support—which plays an important role as negativity buffer—is less available and more difficult to obtain than usual. Thus, entrepreneurs are currently experiencing increasing demand for, but decreasing supply of, emotional support in the way that it is traditionally exchanged (i.e., in-person). In addition to challenges associated with the lack of face-to-face exchange of emotional support, crisis situations, including pandemics, often can create a cohesion and a more collective culture (Bennett and Nikolaev, 2020) where asking for help is appropriate and encouraged. But, this is ambiguous in the COVID-19 context, as asking for support may be less acceptable (i.e., socially distanced and self-sufficient) and it could be believed that personal problems should be solved independently because of worries about infection from COVID-19 (Kim et al., 2008) or not wanting to rely on others who are also struggling.

But, luckily for entrepreneurs and organizations such as Startup Autobahn, there are other, less conventional pathways to emotional support. First, and most obviously, entrepreneurs can turn to other sources - specifically online media can offer emotional support. Health research shows that emotional support can be obtained effectively through computer-mediated communication that importantly transcends typical constraints of geography and time (Wright et al., 2003), including online bulletin boards, chat rooms, listservs, personal e-mail exchanges, or the nowadays omnipresent instant messaging tools. Overall, exchange of emotional support among entrepreneurs online is also shown to enhance productivity (Kuhn and Galloway, 2015).










Second, and perhaps less obviously, the collective culture becomes a source of social support in and of itself (Kim et al., 2008). Community culture and social network support are supplementary. Social networks are more important when community cultures are less collectivistic (Rooks et al., 2016). Thus, currently, entrepreneurs may satisfy part of their need for emotional support in the broader community spirit of “being in this together, online”. Entrepreneurs become co-creators of an online, or appropriately socially distanced, community of emotional support, as we have seen when Italians sing from their balconies, and pass on good vibes (Nielsen, 2020). Here, collective identities are powerful—as we know from social movements (Polletta and Jasper, 2001)—and, the emotional support co-created among entrepreneurs on the basis of common and collective identity (e.g., suffering from lockdowns) should not be underestimated, and is very much encouraged in settings like Startup Autobahn. The co-created emotional support might simultaneously strengthen the coherence among stakeholders within the entrepreneurial ecosystem, and thereby in the longer run help establish a more resilient ecosystem (Roundy et al., 2017).

3. Final thoughts on entrepreneurial action while encountering a shock

We are only now starting to grasp the COVID-19 implications for entrepreneurship (Kuckertz et al., 2020). To move forward, it will not be enough to wait for things to go back “to normal.” As Kuckertz et al. (2020) identified in their fieldwork with entrepreneurs suffering the effects of the COVID-19 crisis in Germany, the way forward requires balancing building resilience as well as being ready for new entrepreneurial opportunities.

Answering the call for attention from Startup Autobahn on the lack of guidance for entrepreneurial activity in an evolving crisis

Table 1
Adjusting entrepreneurial action in a crisis context using insights from planning, frugality, and emotional support research.

Crisis Phases	Business Planning (organizing activities and resource management)	Frugality (resource management)	Emotional Support (human & social capital management)
Pre-Crisis: •Mitigation •Preparedness	 <ul style="list-style-type: none"> •Adjust the resource base (plan for contingencies), create buffers for unexpected shortfalls. 	 <ul style="list-style-type: none"> •Adopt a frugal culture, incentivize resourceful behaviors and focus on the long-term survival of the venture. 	 <ul style="list-style-type: none"> •Enable informal support groups that allow for implicit and explicit support exchanges.
In-Crisis: •Response (emergency)	 <ul style="list-style-type: none"> •Adjust the planning mode, reduce formality, but be detailed and increase frequency. 	 <ul style="list-style-type: none"> •Focus on resource conservation, identify and prioritize resources that contribute directly to the product/service revenues. •Sell-off and divest resources with no contribution to the long-term vision. 	 <ul style="list-style-type: none"> •Encourage emotional openness, making culturally appropriate to share feelings and ask for support.
Post-Crisis: •Recovery	 <ul style="list-style-type: none"> •Adjust the planning mode and activity documents, •Adopt a minimum documentation unit. 	 <ul style="list-style-type: none"> •Adopt a frugal culture for resource acquisition. Focus on quality goods and services instead of the most cost-effective. •Time acquisitions to reinforce your negotiation power. 	 <ul style="list-style-type: none"> •Organize informal support, e.g., online meetings, to strengthen cohesion and collective identity. •Sustain emotional openness, make sharing concerns and feelings a regular behavior.

Source: Authors' elaboration using the disaster management framework (Lettieri et al., 2009).

context, in this Rapid Response article we suggest that entrepreneurs build resilience (considering the unknown duration of this pandemic) while promoting social support to embrace new opportunities in a time of social distancing (see Table 1). So, the answer is not as much whether to pivot or not, but when and how to do it in the context of an evolving pandemic that could reoccur in the near future.

Overall, based on theory and research regarding how business planning activities, frugality and emotional support can guide Startup Autobahn, other entrepreneurship stakeholders, and entrepreneurs more broadly, we recommend (1) adjusting to less formal, more frequent, and nuanced business planning activities; (2) adopting a frugal organizational culture that protects and prioritizes resources that directly contribute to the products and services and the long-term vision of the venture; (3) formalizing the informal so that emotional support can be exchanged internally and externally. See Table 1 for more concrete detail on our recommendations:

In addition to those recommendations, there are also some overall considerations. First, the conversation should not be about whether to plan or not in the current context, but on what type of planning will help to increase the survival chances of the new venture. In this vein, more frequent, but also more agile, planning activities should be conducive to strengthen team cohesion and to give a sense of direction and control despite navigating in a context with multiple *unknown* unknowns. Even in a socio-economic scenario where the adjusted plans might result in reducing growth targets, in order to survive becoming more frugal and increasing the focus on limiting the possible downsides is indicated.

Fortunately, adopting frugality offers a path towards resilience by reassessing the motivations and goals of the startup. Behaving frugally requires a long-term goal in mind (e.g., business survival beyond the next two years), a focus on using all available resources at hand, and getting the best possible deal when acquiring new goods and services. In very practical terms, a frugal entrepreneur would behave as follows: (1) sell off or divest from all goods and services or resources (i.e., capital) that do not contribute to primary revenue streams, (2) take stock, organize, and prioritize (maintaining and acquiring) goods, services, or resources that contribute directly to your revenues by focusing on frugal choices, (3) reduce short-term liabilities and renegotiate financial expenses. However, as much as frugality will support the retrenchment, its long term effects on business turnaround are more mixed (Wenzel et al., 2020). Here is where the entrepreneur's ability to time the investment of (existing or new) slack resources into innovation opportunities will make a difference in the long-term performance (Reymen et al., 2015). The objective is not only to survive the crisis, but to be better prepared to mitigate the impact of similar events in the future.

Second, while frugality contributes to building resilience against negative unexpected impacts of the crisis, social support becomes a lever to rebuild entrepreneurial identity and bounce back in the post-crisis context. The COVID-19 situation also creates new networking opportunities. With lockdowns, physical distancing, and more isolation, an opportunity to reach out to dormant ties emerges (Levin et al., 2011); and, it becomes more natural (and necessary). As online communication becomes the common way to connect, old colleagues, old friends, old acquaintances not contacted for a long period of time are suddenly more straightforward to contact (Roulet and Ben Laker, 2020). Activating dormant ties can be powerful and helpful for entrepreneurs (Elfring and Hulsink, 2019). Also, with COVID-19, entrepreneurs, intended or not, are likely engaging in new activities and new behavior, as both entrepreneurs and as private citizens. The COVID-19 situation changes their ways of doing things, privately and in business. Such changed behavior is potentially an engine of serendipity; they likely meet new people or the same people in new ways that bring forward new opportunities to explore and possibly exploit (Engel et al., 2017). That said, entrepreneurs should keep in mind that increasing networking activities is not necessarily without cost. Reaching out to dormant ties is time consuming; time that potentially could have been used on alternative venture-related activities. It also requires developed social skills and being psychologically comfortable with such interactions to prevent this from

increasing existing stress levels and anxiety.

Overall, challenging as it might be to support entrepreneurs in current COVID-19 crisis, there are ways to increase their chances of survival and to provide much-needed constructive emotional support that leaves room for the unexpected positive outcomes that we all look forward to at the conclusion of this turbulent period.

CRediT authorship contribution statement

Ferran Giones: Conceptualization, Investigation, Writing - original draft, Writing - review & editing. **Alexander Brem:** Conceptualization, Writing - original draft. **Jeffrey M. Pollack:** Writing - review & editing. **Timothy L. Michaelis:** Writing - original draft, Writing - review & editing. **Kim Klyver:** Writing - original draft, Writing - review & editing. **Jan Brinckmann:** Writing - original draft.

Declaration of competing interest

None.

Acknowledgments

We gratefully acknowledge Associate Editor Pablo Muñoz for his guidance in this rapid response research. Moreover, we appreciate the input from our interview partners, in particular Hannah Boomgaarden from Startup Autobahn.

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