



Staying alive during an unfolding crisis: How SMEs ward off impending disaster

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ABSTRACT

What measures are SMEs most likely to take in order to make ends meet in the face of a “black swan” external shock? That is the question we explore in this study, drawing upon unique data from 456 SMEs *in the midst* of an unfolding crisis. Our findings demonstrate how SMEs acted immediately by deferring investments, reducing labor costs, reducing expenses, and negotiating contracts and terms. Moreover, the data highlight how SMEs in an unfolding crisis are reluctant to commit to any action that will increase their debt-to-equity ratio. The findings suggest new questions to be explored in relation to actions during an unfolding crisis, post-crisis businesses, entrepreneurial failure, and entrepreneur/entrepreneurial team characteristics. Implications for policy and practice are provided.

At this moment it is all about reacting to a sequence of events that has never been so rapid. It is somewhat like slalom skiing, where someone is constantly moving the gates [that we need to pass through].

– Stefan Ingves, Governor of the Swedish central bank, in an interview published in *Dagens Nyheter*, April 3, 2020.

1. Introduction

Recent months have witnessed the rise of a global crisis unlike any seen in a generation. In just a few short months, the COVID-19 pandemic has resulted in widespread illness, death, and the rapid contraction of global economies (Financial Times, 2020). Traditionally, organizations prepare for crises ranging from daily perturbations to punctuated events that “are difficult to foresee and whose impacts on organizations are disruptive and potentially inimical” (Meyer, 1982: 515; Williams et al., 2017). While there is a range of crisis scenarios facing organizations, rare are “black swan” events (i.e., unpredictable, rare events that have a catastrophic impact) (Taleb, 2007) that truly transcend business planning or resilience models. It could be argued that the COVID-19 pandemic is this type of event, in that (1) its impact remains largely unknown; (2) the crisis is still unfolding with seemingly no end in sight; and (3) the impact is increasingly devastating for human health and economic well-being, with an expected global economic contraction of at least 2% (Sarkar, 2020).

While COVID-19 is impacting nearly all individuals and organizations worldwide, there is particular concern about how the fallout from the pandemic and the various government responses to it (lockdowns, social distancing guidelines, etc.) will affect small and

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medium-sized enterprises¹ (SMEs). SMEs represent over 90% of all firms worldwide, making them the backbone of the world economy in both the formal and the informal business sectors (Tannenbaum et al., 2020). Despite their important role, SMEs are the most threatened by the COVID-19 crisis given their relatively vulnerable financial position (Doshi et al., 2018; Ghosal and Ye, 2015; Herbane, 2010), which has triggered the initiation of an unprecedented range of government programs, including financial assistance, wage subsidies, and payment deferrals (OECD, 2020). Indeed, an unprecedented joint statement by the G20 countries on March 26, 2020, called for “decisive and collective action,” to provide assistance for “people and workers” as well as “businesses, particularly SMEs” (Gurria, 2020).

While the emphasis on *external* support for SMEs is laudable and indeed necessary, it is worth asking what SMEs themselves are doing to address the challenges associated with the crisis. In particular, we know from the scholarship on crises and organizing (e.g., Williams and Shepherd, 2016a, b, 2018; Williams and Shepherd, 2020) that *victims* of a crisis are often the first to organize a response to their situation, providing rapid and timely contributions that are critical to the alleviation of suffering (see Shepherd and Williams, 2019, for a review). While the COVID-19 situation is truly unique, we pose this question: What measures are SMEs most likely to employ to make ends meet in the face of a black swan external shock? To address this question, we explore a unique set of data collected from SMEs in Sweden *in the midst* of the COVID-19 crisis. Our aim is to provide critical data to guide SME survival efforts during/after crises as well as to offer insights into how government actors might coordinate and collaborate with SMEs in an effective response to crises.

2. Methods

2.1. Data and analyses

The data for the study were collected in Norrbotten, one of Sweden's 21 regions, in March 2020 at the height of the COVID-19 crisis. While China suffered the effects of the coronavirus disease in the months prior to the study, it was not until early to mid-March that the disease affected Swedish firms on a broad spectrum. In mid-March (2020), the chamber of commerce in Norrbotten sought comprehensive data on the current situation of SMEs to (1) learn how to support vulnerable SMEs, and (2) communicate accurate, data driven findings and recommendations for the Swedish minister for trade. To achieve these two goals, the Norrbotten chamber of commerce developed a survey comprising 23 questions (of which eight were open-ended) that was emailed to all 1500 firms in its regional registry with the instruction that it be filled out by the firm's primary decision-maker. The survey was emailed on March 24 and the collection of responses was completed two days later.²

The final data set consisted of 456 SMEs.³ Their size distribution was as follows (size categories pre-defined by the survey creator): 1–9 employees = 70.9%; 10–19 employees = 12.9%; 20–49 employees = 10.3%; 50–99 employees = 4.2%; 100–199 employees = 2%. The distribution of firm size is representative of the studied region as well as Sweden overall (Regionfakta, 2020). The sampled firms were of five industry types: service companies = 26.8%; other (mainly contractors and construction companies) = 21.5%; tourism/cafés/restaurants = 19.5%; manufacturing = 12.7%; retail = 12.9%; logistics and transportation = 6.6%.

To capture and analyze actions taken in direct response to the crisis, we used answers to the survey item on immediate actions taken. The multiple-choice answers to this survey item were as follows: (1) layoffs/government-funded work allowance,⁴ (2) deferred investments, (3) other actions, (4) none. Respondents could select several responses. Of the sampled firms, 65% had taken some form of immediate action. For the 146 firms that provided open-ended qualitative responses to the question on what “other actions” they had taken ($n = 179$ actions), their answers were thematically analyzed (e.g., “reduce stock”). These data on “other actions” were central to identifying the specific actions that had been taken by firms but that were not included as a pre-defined option.

To analyze actions that were anticipated within the coming months, we used answers to a question on what possible actions might be taken within the next three months. The multiple-choice answers were as follows: (1) layoffs/government-funded work allowance, (2) deferred investments, (3) end contracts with hourly workers, (4) end contracts with consultants, (5) other actions, (6) none, (7) do not know. Respondents could select several answers. The responses of the 81 firms that provided open-ended qualitative answers to what “other actions” they might have to take in the next three months ($n = 90$) were thematically analyzed (e.g., “exit”). The computer programs SPSS and MAXQDA were used to analyze the quantitative and qualitative data.

¹ SMEs—as classified by the European Union (EU)—are enterprises with up to 249 employees and a turnover up to €50 million in sales. We use the EU definition given our European empirical context (https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en).

² To situate the data collection in time, this is 12 days after Sweden announced its first COVID-19 death, 10 days after the United States refused entry to travelers arriving from 26 European countries, and 5 days after Sweden closed the borders for non-essential travel.

³ A total of 474 responses were collected by the chamber of commerce in Norrbotten, but to ensure all firms analyzed for this study met the SME criterium of less than 250 employees, firms in the pre-defined categories of 200–499 employees ($n = 11$) and >500 employees ($n = 7$) were excluded, resulting in a final sample of 456 firms.

⁴ The Swedish crisis package included a solution where employers could, if certain conditions were met, on a short term reduce their employees' working hours (20–80%) without affecting the employees' salaries to the same extent (4–12%), with the government covering a large share of the costs.

3. Results and discussion

3.1. Are there SMEs that do not think they will be impacted by a black swan external shock?

The results for the long-term impact that firms thought the pandemic would have on their business were as follows: minimal = 4%; little = 26%; great = 47.8%; critical = 22.2%. In hindsight, one must ask why as many as 30% of the firms thought the pandemic would have “minimal” or “little” long-term impact on their business. While it should be kept in mind that the data were collected less than two weeks after the first COVID-19 death in Sweden and the public discourse was then focused on how the crisis was primarily affecting the hospitality, retail, and service industries, it is also relevant to note the optimism of 30% of the SMEs despite the incredibly challenging times. While perhaps surprising, this finding is consistent with the psychology literature on resilience (Bonanno, 2004), which suggests that challenging events are *potential* crises as most individuals tend to be resilient (i.e., retain functioning) as opposed to being disrupted in moments of difficulty. At the organizational level, we also know that crises disrupt resource stocks, but can also amplify the value of other resources (social connections, newly relevant material items, etc.) that can be deployed for venturing (Williams and Shepherd, 2018). The key inference, therefore, is that while crises disrupt resources for SMEs, it is essential that we do not overly generalize all SMEs as “crisis stricken” as they may be likely to find creative approaches for deploying resources in the new, post-crisis environment (Williams and Shepherd, 2020).

Nevertheless, as the pandemic evolved beyond the data collection period it became clear that many other industries than those first identified would be affected by the crisis—positively or negatively. To illustrate, how many fishermen would have been able to predict, two weeks after COVID-19 was officially declared a pandemic, that the demand for herring and mackerel would increase whereas those who caught crayfish would have difficulty even surviving the crisis (Sveriges Radio, 2020b)? This serves to remind us how difficult it is for individual entrepreneurs amidst a crisis to foresee, in the early days, the extent to which they will be affected in the long term. Furthermore, this finding demonstrates how while crises devastate certain resources, they also create an “explosion of meaning” (Roux-Dufort, 2007; Roux-Dufort and Lalonde, 2013), resulting in that resources that were previously low-moderate in value (e.g., herring), may take on new meaning. This has been observed in the sudden global demand for basic products such as bicycles. For example, at the beginning of the COVID-19 pandemic, many bike shops (classic SMEs) worried about going out of business. However, as

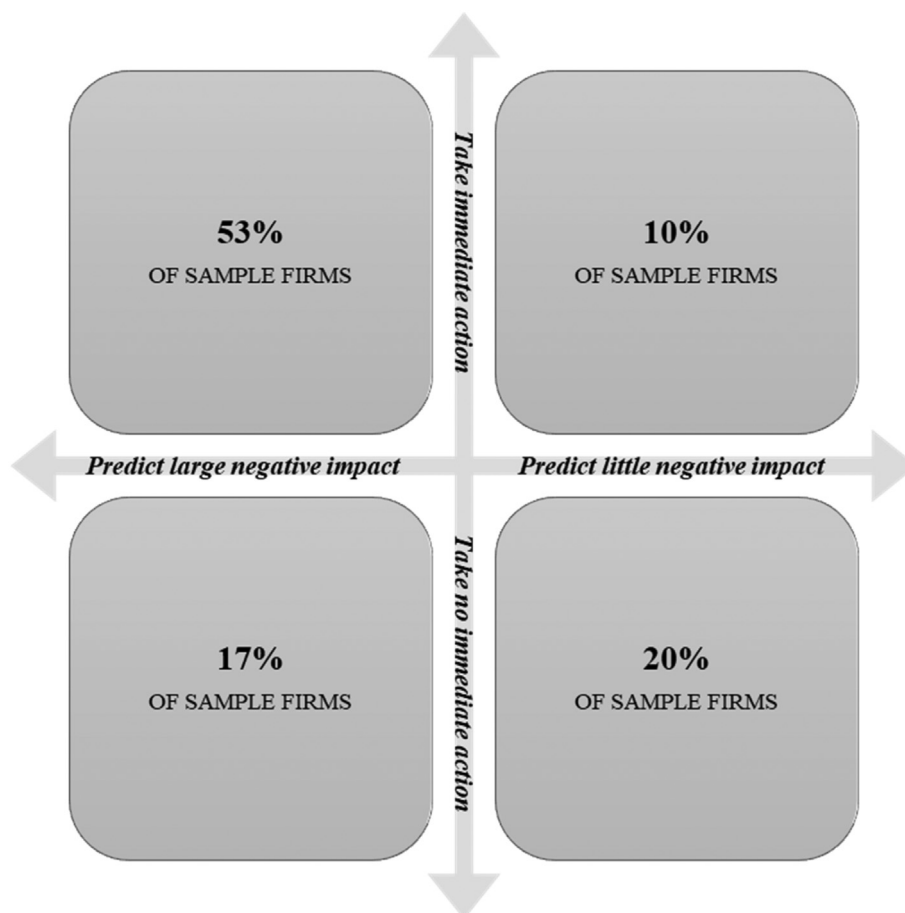


Fig. 1. Matrix on combination of actions taken and predicted long-term impact of crisis on the firm.

stated in a recent document: “For most shops, that hibernation [total loss of sales] lasted about a week. Then suddenly, bikes started selling like toilet paper ... Now ... the world’s supply of new bikes is running out. Like toilet paper” (Engel, 2020). Therefore, we can see that while some firms will be able to accurately predict to what extent their business will be affected, our data indicate that many are likely to underestimate the negative or positive impact of a black swan external shock on their business.

3.2. Are there SMEs that take no action in an unfolding crisis?

Fig. 1 presents the distribution of the sample regarding the extent to which firms took immediate action and the expected long-term negative impact of the crisis on their enterprise. As illustrated, 37% of the firms had not taken *any* action at the time of the survey. Moreover, approximately 15% had neither acted nor seen a need to act within the next three months. Of these “passive firms” (i.e., not having acted and not planning to act), 83.6% had not noticed a negative impact on cash flow due to the pandemic and 80.6% expected the pandemic to have “minimal” or “little” effect on their business. So the answer is yes: there is a small group of firms that do not think they will be greatly affected and thus do not take immediate action and do not anticipate taking action. While we certainly understand the perspective of “wait and see” as the crisis unfolds, extant scholarship would suggest that SMEs should be looking at the new resource environment to generate creative solutions (Drabek and McEntire, 2003). Indeed, crises such as COVID-19 will have lasting impacts on the economic and environmental context for organizing, creating both challenges and opportunities for SMEs and/or nascent firms (Roux-Dufort and Lalonde, 2013; Williams and Shepherd, 2018).

3.3. Does liquidity play a role with respect to immediate action?

As illustrated in Figs. 1 and 63% of the sample firms had taken immediate action. Fig. 2 presents the statistics for firms’ answers regarding how sustainable they were, with respect to liquidity, at the time of the survey. Building upon the grouping in Fig. 1, Welch’s ANOVA indicated significant group differences in liquidity ($p < .001$). Therefore, the answer is yes: liquidity plays a role in whether or not SMEs take immediate action.

Games-Howell post-hoc analysis for comparing differences between multiple groups revealed that, unsurprisingly, those firms that predicted the pandemic would have a great negative long-term effect, even after immediate action had been taken (upper left quadrant of Fig. 1), had fewer weeks left, when compared to the other three groups, before they would run out of liquid assets (mean comparisons are presented in Table 1). Moreover, firms that did not think the crisis would have a long-term negative impact, even if they did not take immediate action (lower right quadrant of Fig. 1), is the group for which liquid assets would last the longest. These pairwise comparisons provide a rational explanation for action/inaction by the groups in the upper left quadrant (53% of sample) and lower right quadrant (20% of sample).

The behaviors of the other two groups are more difficult to explain. There is no significant difference, in terms of firm liquidity, between the two groups in the upper right and lower left quadrants (mean difference = 0.23; 95% CI = $-0.32, 0.77$; $p = .70$). While the liquid assets would last only two months on average for both these groups of firms, they differ in terms of their *assessment and actions*, which provide some opportunity to try and explain these differences. The firms in the upper right quadrant *took immediate action* even though they did not predict that the crisis would have a negative impact on their business (10% of sample). Research on responses to potential stressors (Hobfoll, 2001) helps explain that some individuals, when presented with a stressful situation seek to expand their body of resources by taking action. In this way, they can conserve their extant body of resources by investing some of them (through

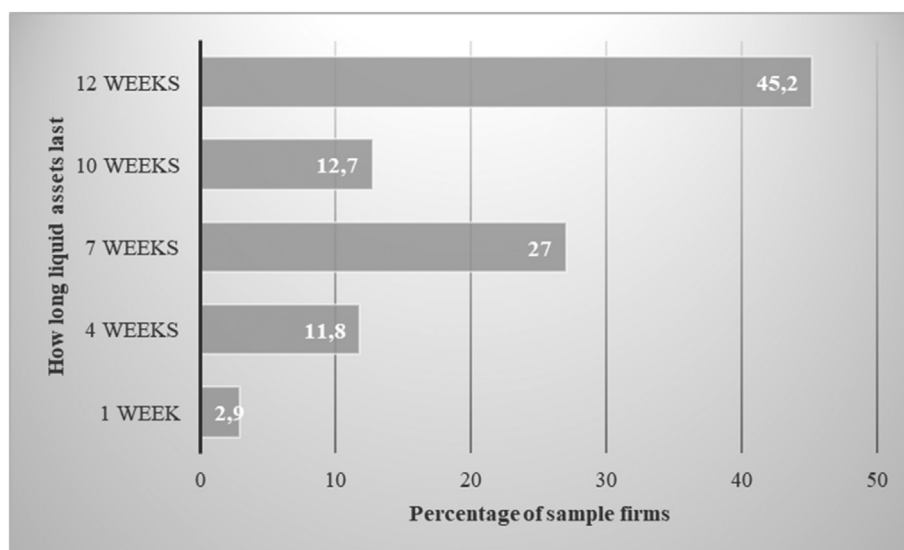


Fig. 2. Liquidity at time of survey.

Table 1Liquidity: Mean differences across groups.^a

Pairwise comparison of quadrants in Fig. 1	Mean difference	95% CI	p-value
Upper left (53%) vs. upper right (10%)	−.51	−1.01, −.02	<.05
Upper left (53%) vs. lower right (20%)	−1.31	−1.58, −1.05	<.001
Upper left (53%) vs. lower left (17%)	−.74	−1.12, −.36	<.001
Upper right (10%) vs. lower right (20%)	−.80	−1.28, −.32	<.001
Upper right (10%) vs. lower left (17%)	−.23	−.77, .32	<i>P</i> = .70
Lower right (20%) vs. lower left (17%)	.57	.21, .94	<.001

^a Games-Howell post hoc analysis following Welch's ANOVA.

action) toward more research stocks in the future. Therefore, despite not seeing the crisis as an immediate threat, the entrepreneurs in this group likely took immediate action to ensure their limited stocks were not depleted.

In contrast to the previous group, the group of firms in the lower left quadrant predicted that the crisis would, in the long term, have a negative impact on their business but still *did not take immediate action* (17% of sample). These firms represent inaction in the face of a crisis that they expect will have a long-term negative impact on their business. They are on the brink of disaster and they know it, yet they are paralyzed. This too is consistent with the work by Hobfoll and colleagues on stress response, in that some individuals, when faced with a challenge they perceive to be highly negative, seek to conserve all resources to avoid further losses (Hobfoll, 2001; Hobfoll et al., 2018). This conservation focus leads to resource hoarding and paralysis. Furthermore, efforts to protect resources from depletion can lead to myopic decision-making focused solely on conservation rather than action and investment (Chen et al., 2009; Hobfoll, 2011; Williams and Shepherd, 2016a). The type of behavior by firms in the lower left quadrant would be particularly interesting to explore in

Table 2

Immediate actions taken by SMEs in response to external shock.

Immediate actions by firms that anticipate <i>great</i> negative long-term impact by external shock	Immediate actions by firms that anticipate <i>little</i> negative long-term impact by external shock
1. Deferred investments (51%) 2. Layoffs/government-funded work allowance (27%) 3. Reduced labor costs (16%) 4. Reduced expenses (12%) 5. Negotiated contracts and terms (8%) 6. Reduced stock (5%) 7. Revenue focused activities (3%) 8. Innovation focused activities (2%) 9. Reduced R&D (1%) 10. Loans (0.5%) 11. Exit (0.5%) Examples Reduced labor costs: "Removed all extra staff." "Stopped all recruitment." "Several on the board/in the company work unpaid to keep the business afloat." "Minimize owner salaries." "No salary to working owners." "Work more hours myself." "Reduced pension savings for employees." "Paused my private installments for house loans so that I can take a lower salary." Reduced expenses: "All activities, investments, campaigns are cancelled. We have cut down on all costs that we can." "Cut down on everything that is non-essential to manage current operations." "Reduced marketing." "Delaying competence development." "Cancelled software licenses." Negotiated contracts and terms: "Dialogues with banks/institutions about pausing installments and possibly get a better interest rate." "Renegotiating lease for office." "Negotiated terms of payment with suppliers." "Applied for delayed tax and VAT payments." "Applied for a delay of installments as well as an installment plan on accrued taxes." "Dialogue with, for example, energy supplier and municipality about possibilities to reduce fixed costs."	1. Deferred investments (21%) 2. Layoffs/government-funded work allowance (7%) 3. Reduced labor costs (9%) 4. Reduced expenses (8%) 5. Negotiated contracts and terms (1.5%) 6. Reduced stock (1.5%) 7. Innovation focused activities (1.5%) Reduced stock: "Reduced commodity purchases, which results in reduced production." "Buy lesser amounts." "Took immediate action when it comes to purchases, and immediately started to use what we had in stock." "Closed supplier contracts or reduced volumes of purchases." "Total stoppage of commodity purchase and articles. Only the most essential to keep the business alive can be purchased." Revenue-focused activities: "Working to increase sales to those customer groups that are not heavily affected by this crisis." "Put much of operations on hold; fewer transports, stopped going to meetings. Focus only on activities that can generate money." Innovation-focused activities: "Find new product/income possibilities." "Applied for permit to have a moveable business so that I can go to homes of clients." Reduced R&D: "Stopped all development work." "Laid off product developer." Loans: "Taken out a business loan." "Applied for a bank loan." Exit: "Liquidation."

future research. Specifically, while some may simply be conserving resources as long as possible (Hobfoll, 2001), there may be other motivators for avoiding action. Are they in shock? Are they unaware of the actions they could take (e.g., negotiate contracts and terms) and how those actions might avoid disaster? Do they struggle to see the “explosion of meaning” that is available in the new resource environment and if/how it might be relevant to their situation (Roux-Dufort, 2007)? We encourage scholars to not only uncover the *why's* of their behavior, but also examine how such businesses fare in a crisis when compared to other businesses.

3.4. What are the immediate actions taken by SMEs?

Table 2 presents the immediate actions taken by SMEs in the face of an external shock. To delineate how the perceived degree of impact by the crisis may influence actions, we split the sample based on the extent to which the firms predicted that their business would be negatively influenced by the pandemic. Firms that thought the pandemic would have a “great” or “critical” negative long-term impact on their business are shown on the left, while those that thought it would have “minimal” or “little” negative impact on their business are shown on the right. The actions “deferred investments” and “layoffs/government-funded work allowance” were calculated using the multiple choice answers to the question on immediate actions already taken. The remaining actions were calculated using coding and clustering of the open-ended answers to the question on “Other” measures taken so far. Examples of coded actions taken, as provided in open-ended answers, are also presented in Table 2.

The most common immediate actions, irrespective of the anticipated negative long-term impact of the pandemic, were as follows: (1) deferred investments, (2) layoffs/government-funded work allowance, (3) reduced labor costs, (4) reduced expenses, (5) negotiated contracts and terms, and (6) reduced stock. For details on the extent to which the two groups of SMEs employed each action, see Table 2. The overall pattern reveals that SMEs’ immediate actions were focused on (a) reducing negative cash flow, and (b) reducing tied-up capital. These actions are consistent with scholarship on resourcefulness—which suggests that when facing constraints, organizations defuse pressure by trying to manipulate constraints (Winborg and Landström, 2001). What is interesting is that most of the actions we observed were focused on *conserving* resources rather than other resourceful approaches such as repurposing equipment, imagining new products or purposes of existing resources to *expand* investments in a revised future (Baker and Nelson, 2005; Kuckertz et al., 2020; Sonenshein, 2014). Future research could explore the factors that shape why entrepreneurs are more inclined to engage in *reducing* actions rather than *expanding* options despite the opportunities presented by a restructuring of the general environmental context as a result of the crisis (Williams et al., 2017).

Table 3

Actions anticipated by SMEs in an unfolding crisis.

Actions considered by firms that anticipate <i>great</i> negative long-term impact of external shock	Actions considered by firms that anticipate <i>little</i> negative long-term impact of external shock
1. Layoffs/government-funded work allowance (53%) 2. Defer investments (47%) 3. End hourly contracts with employees and consultants (30%) 4. Exit (8%) 5. Negotiate contracts and terms (5%) 6. Reduce labor costs (4%) (in addition to the above actions) 7. Reduce expenses (2%) 8. Loans (1%) 9. Revenue-focused activities (0.5%) 10. Innovation-focused activities (0.5%)	1. Defer investments (21%) 2. Layoffs/government-funded work allowance (17%) 3. End hourly contracts with employees and consultants (10%) 4. Negotiate contracts and terms (3%) 5. Exit (1.5%) 6. Reduce labor costs (1.5%) (in addition to the above actions) 7. Reduce expenses (1.5%) 8. Reduce R&D (1.5%) 9. Revenue-focused activities (0.5%) 10. Innovation-focused activities (0.5%) 11. Loans (0.5%)
Examples Exit: “We won’t exist in three months without cash flow. It is not possible to lend yourself through this difficult economic crisis!” “Within three months, the risk is that my business will file for bankruptcy.” “We would need to close the business entirely before May.” “Prepare for bankruptcy if no form of cash flow starts or there is no government support/funding.” “Give up completely.” Negotiate contracts and terms: “Apply for delay of installments to the bank and tax payments.” “Renegotiate contracts and terms for financing, reduce fees to the municipality.” “Possibly other terms of payment. FX hedging.” Reduce labor costs: “Since we are owners, we will either use unemployment benefits or see if we can make use of the government-funded work allowance.” “Would primarily be about us reducing time.” “The ambition is that no one will need to lose their job, but if we have a really tough scenario, we will cut hours. We will also encourage employees with ‘parental days’ to take the opportunity to use those and where we offer to cover the parents’ allowance even more.”	Reduce expenses: “Review costs that we can reduce, i.e., reduce electricity consumption, fuel, go into savings mode on everything.” “Terminate non-essential rental agreements such as garage and storage rooms.” “Terminate the lease for the business facility.” “Reduce maintenance.” Loans: “Bank loan. Unfortunately, the bank was not so interested in finding a joint solution.” “Need a bank loan—ongoing negotiation.” “Take out a loan to manage operations and rental fees.” “Loan money privately to monthly expenditures (interest, installments, fees, franchise fees, VAT).” Revenue-focused activities: “Finding new revenue opportunities... Both short- and long-term.” “Discounts on all products.” Innovation-focused activities: “We try to adapt our production to hand sanitizer.”

3.5. What actions do SMEs anticipate taking in the coming months?

Table 3 presents the actions that the sampled firms anticipate taking in the coming months. In contrast to immediate actions already taken (Table 2), there are some differences based on whether they expected the pandemic to have a great or little negative long-term impact on their business (see Table 3 for a comparison of the two groups). Here, we focus our presentation and discussion on the firms that expect the pandemic to impact their business negatively in the long term (left-hand column). They mainly anticipate taking the following actions in the coming months: (1) layoffs/government-funded work allowance, (2) deferred investments, (3) end contracts with hourly workers and consultants, (4) exit, (5) negotiate contracts and terms, and (6) reduce labor costs.

The high percentage of firms that selected “layoffs/government-funded work allowance” (53%) and “end contracts with hourly workers and consultants” (30%) reflects a strong focus on reducing costs by paring back the organization. While “exit” moves up from #11 (actions taken) to #5 (anticipated), “reducing expenses” moves down from #4 (actions taken) to #7 (anticipated). One explanation for this may be that more drastic action is needed as the crisis unfolds. When expenses are immediately reduced to a minimum, there is only so much that can be done. Paring back the organization and possibly filing for bankruptcy may be anticipated as the next stages. Similar to the short-term actions, we were a little surprised to see the initial actions to *conserve* persisted in the long-term. That is, short-term efforts to free up cash did not result in a shift to an investment mindset. We know that resources, while seemingly permanent when in place to fulfill products, do not have a “fixed use” (Sonenshein, 2014: 816), and that entrepreneurs are capable of employing a “wide scope for judgement” (Penrose, 1959: 42) in the assembly, enactment, and deployment of resources to generate value (Reuer and Koza, 2000). Therefore, why is it that SMEs did not employ a wide scope for judgement in deploying resources, but seemed to focus on conserving until the point of bankruptcy?

3.6. Are there actions that SMEs refrain from taking during an unfolding crisis?

While it is relevant to explore the actions that SMEs take, it is also relevant to highlight actions they refrain from taking or do not

Table 4

Reasons why SMEs do not increase debt in an unfolding crisis.

Reasons – Illustrative examples
<p>Reluctance among SMEs to delay payments</p> <p>“To defer tax payments is not positive, especially with an imminent risk of being unable to pay our tax debt because three months [for a reprieve] is too short.”</p> <p>“To defer installments is a short-term solution: they still need to be paid at a higher rate later. And offered loans have a high interest rate (6%): nothing to recommend! Delaying taxes, fees, etc., is a good idea, but small businesses do not have enough profitability that there are any taxes to be paid: ergo no lessening of costs.”</p> <p>“We cannot do business now and do not know when we will have revenues that would cover operating costs again [and thus cannot know if we can pay any delayed payments when they are due].”</p> <p>“All entrepreneurs want to pay their taxes and are scared to death of being privately affected at the time of a potential bankruptcy in two years, when corona[virus] has eaten up all equity.”</p> <p>“Even if we are approved deferment on tax payments this is money that needs to be paid... We sell fresh goods and thus cannot lock down production without consequences for our liquidity, and we cannot produce more services than we have hotel rooms or restaurant seats. A deferment of taxes would in a longer-term perspective mean a higher debt-to-equity ratio.”</p> <p>“Deferment with payment of fees and taxes does not help at all. The money must [come] in, and if we cannot sell anything, we will not have any money [to pay with].”</p> <p>“Deferment of taxes is an awful remedy, nobody wants to build tax debt.”</p> <p>Reluctance among SMEs to take loans</p> <p>“Loans are no solution.”</p> <p>“It does not work with loans or delaying payments, since small businesses typically do not know when revenues will come after the crisis.”</p> <p>“If you would lend money in a crisis situation the interest rate is 6.6%!! Who dares to take a loan then?”</p> <p>“Loans are such mockery! Delaying the economic crisis for us does not help a bit. We are too small to deal with this on our own.”</p> <p>“Loans are just a way to delay the problems.”</p> <p>“You don’t lend yourself through a crisis.”</p> <p>“Loans help nobody!”</p> <p>“In the situation we are in now, it is impossible to survive. We have way too small margins.”</p> <p>“Who takes a loan over 6% in this situation?”</p> <p>“Lending ourselves through the crisis at a high interest rate is a catastrophe.”</p> <p>“While they [loans] can momentarily strengthen liquidity, they have to be paid back.”</p> <p>“[Loans] only become artificial respiration and just delay problems. There is nothing saying you will have a chance to pay for loans, because who knows when customers will return? It will take a long time, I think.”</p> <p>“What difference does it make if you get a loan or deferment on a rental lease. One day everything needs to be paid anyway. Where is that money supposed to come from? God? Idiots.”</p> <p>“Today we are in a situation where we are very reluctant to take a loan to run daily operations, since that is money we would hardly be able to pay back once we are back to ‘normal’ operations.”</p> <p>Reluctance among banks to approve SMEs loans</p> <p>“We don’t get any banks to approve a loan right now.”</p> <p>“Unclear how loans will help, since companies need liquidity and the banks continue to use their common methods for lending. They don’t work in times like this. Historical balance sheets and income statements do not serve as guidance.”</p> <p>“What bank wants to lend money to businesses with poor finances at a high rate and that they borrowed from the state without interest?”</p> <p>“It does not help with loans at 6% interest rate when they are channeled through banks that look at their credit risks.”</p> <p>“We are denied a loan because we are relatively new...”</p> <p>“Uncertain times make the banks uninterested in increasing their lending.”</p>

even consider taking. Tables 2 and 3 show three types of action that SMEs refrain from taking immediately or anticipate taking in response to an external shock: (a) revenue-focused actions, (b) innovation-focused actions, and (c) loans. In this empirical case, the shock represented a sharp drop in demand in many industries. This might explain why the SMEs in our data set focused almost entirely on reducing negative cash flow and reducing tied-up capital. Moreover, there were no government programs focused on revenue or innovation.

While the Swedish government's crisis package included offers through which SMEs would increase their debt, our data demonstrate that SMEs did not find this to be an attractive remedy. Using respondents' open-ended reflections on the package, we clustered the reasons why the loans were not an option for them into three groups: (1) reluctance among SMEs to delay payments, (2) reluctance among SMEs to take out loans, and (3) reluctance among banks to approve loans to SMEs. In Table 4 we provide examples for each of these reasons. The data show clearly that when decision-makers in SMEs are faced with a black swan external shock, they worry about securing both liquidity and solidity, the latter having priority over the former. In an unfolding crisis, SMEs are evidently very hesitant to take any kind of action that will increase their debt-to-equity ratio—preferring to conserve rather than take risks despite the fact that risks might lead to an aggressive (rather than passive) solution to surviving the crisis (Bonanno, 2004; Hobfoll, 2001).

3.7. Avenues for future research

As discussed above, our data raise several new questions about SMEs and their assessments of and responses to external shocks. In Table 5 we give examples of research questions around four themes in order to provide some direction for future research: (1) actions during an unfolding crisis (or lack thereof), (2) post-crisis businesses, (3) entrepreneurial failure, and (4) entrepreneur/entrepreneurial team characteristics. We also exemplify research dialogues for each of the four themes, for which the identified research questions could potentially test and extend theory boundaries.

Table 5
Avenues for future research.

Themes	Examples of research questions	Examples of dialogues
Actions during an unfolding crisis (or lack thereof)	<p>What actions do SMEs take—not only anticipate—<i>within</i> three months of a crisis?</p> <p>What actions do SMEs take, if still surviving, <i>after</i> three months?</p> <p>Why do some SMEs become paralyzed, expecting that the crisis will have a negative long-term impact on their business but still unable to take quick action?</p> <p>Can the paralysis be explained by individual, organizational, or industry factors, or a combination thereof?</p> <p>How do decision-makers in SMEs assess whether an external shock is something that will impact their business and whether they need to act?</p> <p>What are the short-term, mid-term, and long-term consequences of different actions taken during a crisis?</p> <p>Under what conditions (if any) would revenue- and innovation-focused activities during a crisis be effective for SMEs?</p> <p>How do SMEs pursue opportunity in the midst of a crisis?</p> <p>What skills do SMEs build during a crisis?</p>	<p>Crisis and resilience (Williams et al., 2017)</p> <p>Entrepreneurial decision-making (Shepherd et al., 2015)</p> <p>Entrepreneurial opportunities (Dimov, 2007)</p> <p>Entrepreneurial bricolage (Baker and Nelson, 2005)</p> <p>Escalation of commitment (McMullen and Kier, 2016)</p> <p>Open innovation practices during a crisis (Chesbrough, 2020)</p> <p>The role of hubris in resilience (Hayward et al., 2010)</p>
Post-crisis businesses	<p>What characterizes those SMEs that survive an external shock? How much can be attributed to how they dealt with the crisis and how much can be attributed to what/how they were doing before the crisis?</p> <p>What are the different paths that SMEs take after being exposed to an external shock? What factors push SMEs into different post-crisis paths?</p> <p>What factors determine which SMEs will take the lion's share of market profits when the market rebounds?</p> <p>What factors explain an SME's successful/unsuccessful pivoting when there is an external shock?</p> <p>How long does the memory of a crisis last in SMEs? What memories (if any) are beneficial for future business outcomes, and what memories (if any) hamper business outcomes?</p> <p>How do post-crisis SMEs insulate against future shocks?</p>	<p>Advantages of being small vs. young (Bartz and Winkler, 2016)</p> <p>Entrepreneurial financing in times of crisis (Cowling et al., 2012)</p> <p>Entrepreneurial learning processes (Politis, 2005)</p> <p>Mission drift (Grimes et al., 2019)</p> <p>Entrepreneurship and innovation at the base of the pyramid (Hall et al., 2012)</p> <p>Entrepreneurial imaginativeness (Kier and McMullen, 2018)</p>
Entrepreneurial failure	<p>What happens when entrepreneurs/entrepreneurial teams fail after being exposed to an external shock? Do they start again (and, if so, with or without modifications)? Why do some become hybrid entrepreneurs, some become salaried workers, and some become unemployed?</p> <p>How (if at all) does failing due to an external shock differ from failing for other reasons? Will entrepreneurs be more/less willing to start a new business after failing due to an external shock?</p>	<p>Entrepreneurial reentry (Williams et al., 2019)</p> <p>Learning from business failure (Shepherd, 2003)</p> <p>Cultural sensemaking of entrepreneurial failure (Cardon et al., 2011)</p>
Entrepreneur/entrepreneurial team characteristics	<p>To what extent do concepts such as entrepreneurial passion, identity, and self-efficacy influence how entrepreneurs/entrepreneurial teams deal with external shocks? To what extent do characteristics that are adaptive/maladaptive under normal circumstances apply during a crisis?</p> <p>When/how (if at all) do emotions such as worry, distress, frustration, and anger play a role in the decision-making of entrepreneurs/entrepreneurial teams?</p>	<p>Founder identity (Powell and Baker, 2014)</p> <p>Passion and habitual entrepreneurship (Thorgren and Wincent, 2015)</p> <p>Managing crises within entrepreneurial teams (Clarysse and Moray, 2004)</p>

3.8. Implications for policy and practice

At the time of writing, we are still amidst the crisis. It is not yet over, we do not know when it will be over, and we have not yet seen its full impact for businesses in Sweden or globally. There is no easy solution for how either policy-makers or decision-makers in SMEs should think and act to best deal with a black swan external shock as well as reorient entrepreneurship policy during a crisis (Muñoz et al., 2020), and our study does not provide all of the answers. That said, our study does offer insights that might be worth highlighting in policy and practice.

We extrapolate four key recommendations for policy-makers responsible for developing “decisive and collective action(s)” (Gurria, 2020) to help SMEs during an unfolding crisis. First, policy-makers need to act quickly if the objective is to support SMEs. Aid must be offered rapidly. For many SMEs that have been immediately affected, it is a matter of weeks rather than months before bankruptcy is inevitable. Second, our findings send policy-makers a clear message: loans or any other measures that increase firms’ debt-to-equity ratio will not be attractive to SMEs. If governments are to offer help that SMEs will be prepared to accept, it must be through other means. Third, we recognize the difficulty for policy-makers of developing government programs when a crisis is still unfolding and there is no way of knowing how events will transpire or when the crisis will end. When such uncertainty abounds, policy-makers need to consider whether it is better to support SMEs by means of various programs or, alternatively, to stimulate the economy by investing in projects related to infrastructure, construction or energy. This decision would have to take into account the extent to which the initiative would create high demand for SMEs and their employees and the extent to which it will affect the industries hardest hit by the external shock, as well as whether a structural shift is something the government wishes to stimulate or to avoid. Fourth, policy-makers may evaluate the potential efficacy of promoting pro-revenue generative behaviors. For example, SMEs in our study were, after data for this study was collected, offered “consultancy checks” through which they, under certain conditions, received up to 90% of costs for buying consultancy services for organizational or market development (Region Norrbotten, 2020). These types of initiatives are consistent with Hobfoll (2001), Bonanno (2004) and other research (Williams et al., 2017) which explains that investment oriented action (Williams and Shepherd, 2016a) despite extreme challenges (Williams and Shepherd, 2020) provides a path to new, innovative solutions. That said, policy-makers would need to evaluate to what extent such investments should be funded by the government and/or by the firms, while monitoring the availability of entrepreneurial financing following the crisis (Brown and Rocha, 2020).

For SMEs, our study offers two key suggestions with respect to how they might address challenges during an unfolding crisis. First, SMEs that wish to avoid becoming paralyzed when exposed to an external shock may be inspired by how the SMEs in our sample acted immediately by adopting the following measures: deferring investments, reducing labor costs, reducing expenses, and negotiating contracts and terms. Second, while the most rational course, during a crisis, is to focus on reducing negative cash flow and tied-up capital, we recommend that SMEs keep a parallel idea in mind: the possibility of boosting revenues by being innovative (Fisher et al., 2020). While innovation is not top of mind in the face of a black swan external shock, media reports during the COVID-19 pandemic have highlighted several examples of how innovation—especially through collaboration with partners (e.g., buyers)—can be a means of warding off impending disaster. To give just a few examples: a drop in demand for single-use food containers triggered a switch to the production of face shields (Dagens Industri, 2020); a small distillery that lost 100% of its market switched to the production of hand sanitizer (Norrbottenskuriren, 2020); and a tailoring business that experienced a sudden drop in demand for suits switched to the manufacture of protective attire for undertakers (Sveriges Radio, 2020a).

4. Conclusion

Most SMEs facing a black swan external shock take some immediate action, irrespective of whether they expect the crisis will have a long-term negative impact on their business. Our analysis indicates that decision-makers in SMEs are generally more willing to reduce negative cash flow and possibly file for bankruptcy than to increase their debt-to-equity ratio and propel financial problems on to the future. Moreover, it is evident that SMEs’ survival strategies are focused on costs, not on increasing revenues or being innovative. While understandable, this finding is deeply concerning as research on crisis response suggests that when “victims” of a crisis take action to *invest* rather than *conserve* resources they are more likely to have positive psychological and organizational outcomes in the long-term. Our results have led us to offer suggestions for policy and practice, as well as to propose ideas for future research by providing research questions related to actions taken during an unfolding crisis, post-crisis businesses, entrepreneurial failure, and entrepreneur/entrepreneurial team characteristics.

Declaration of competing interest

The Authors declare that there is no conflict of interest.

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References

- Baker, T., Nelson, R.E., 2005. Creating something from nothing: resource construction through entrepreneurial bricolage. *Adm. Sci. Q.* 50, 329–366.
- Bartz, W., Winkler, A., 2016. Flexible or fragile? The growth performance of small and young businesses during the global financial crisis - evidence from Germany. *J. Bus. Ventur.* 31, 196–215.
- Bonanno, G.A., 2004. Loss, trauma, and human resilience: have we underestimated the human capacity to thrive after extremely aversive events? *Am. Psychol.* 59, 20–28.
- Brown, R., Rocha, A., 2020. Entrepreneurial uncertainty during the Covid-19 crisis: mapping the temporal dynamics of entrepreneurial finance. *Journal of Business Venturing Insights* 14, e00174.
- Cardon, M.S., Stevens, C.E., Potter, D.R., 2011. Misfortunes or mistakes? Cultural sensemaking of entrepreneurial failure. *J. Bus. Ventur.* 26, 79–92.
- Chen, S., Westman, M., Eden, D., 2009. Impact of enhanced resources on anticipatory stress and adjustment to new information technology: a field-experimental test of conservation of resources theory. *J. Occup. Health Psychol.* 14, 219–230.
- Chesbrough, H., 2020. To recover faster from Covid-19, open up: managerial implications from an open innovation perspective. *Ind. Market. Manag.* <https://doi.org/10.1016/j.indmarman.2020.04.010>. In press.
- Clarysse, B., Moray, N., 2004. A process study of entrepreneurial team formation: the case of a research-based spin-off. *J. Bus. Ventur.* 19, 55–79.
- Cowling, M., Liu, W., Ledger, A., 2012. Small business financing in the UK before and during the current financial crisis. *Int. Small Bus. J.* 30, 778–800.
- Dagens Industri, 2020. Dagens Industri. (Accessed 9 May 2020).
- Dimov, D., 2007. Beyond the single-person, single-insight attribution in understanding entrepreneurial opportunities. *Enterpren. Theor. Pract.* 31, 713–731.
- Doshi, H., Kumar, P., Yerramilli, V., 2018. Uncertainty, capital investment, and risk management. *Manag. Sci.* 64, 5769–5786.
- Drabek, T.E., McEntire, D.A., 2003. Emergent phenomena and the sociology of disaster: lessons, trends and opportunities from the research literature. *Disaster Prev. Manag. Int. J.* 12, 97–112.
- Engel, T., 2020. We are running out of bikes. *Bike Magazine*. <https://www.bikemag.com/news/we-are-running-out-of-bikes/>.
- Fisher, G., Stevenson, R., Burnell, D., 2020. Permission to hustle: igniting entrepreneurship in an organization. *Journal of Business Venturing Insights* 14, e00173. <https://doi.org/10.1016/j.jbvi.2020.e00173>.
- Financial Times, 2020. Financial Times. (Accessed 12 May 2020).
- Ghosal, V., Ye, Y., 2015. Uncertainty and the employment dynamics of small and large businesses. *Small Bus. Econ.* 44, 529–558.
- Grimes, M.G., Williams, T.A., Zhao, E.Y., 2019. Anchors aweigh: the sources, variety, and challenges of mission drift. *Acad. Manag. Rev.* 44, 819–845.
- Gurria, A., Secretary general ANGEL GURRIÁ'S statement for the G20 videoconference summit ON COVID-19. https://read.oecd-ilibrary.org/view/?ref=126_126445-50fyod1xpv&title=SecretaryGeneralAngelGurriaStatementforthe20_VideoconferenceSummitonCOVID19; 2020.
- Hall, J., Matos, S., Sheehan, L., Silvestre, B., 2012. Entrepreneurship and innovation at the base of the Pyramid: a recipe for inclusive growth or social exclusion? *J. Manag. Stud.* 49, 785–812.
- Hayward, M.L.A., Forster, W.R., Sarasvathy, S.D., Fredrickson, B.L., 2010. Beyond hubris: how highly confident entrepreneurs rebound to venture again. *J. Bus. Ventur.* 25, 569–578.
- Herbane, B., 2010. Small business research: time for a crisis-based view. *Int. Small Bus. J.* 28, 43–64.
- Hobfoll, S.E., 2001. The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory. *Appl. Psychol.* 50, 337–421.
- Hobfoll, S.E., 2011. Conservation of resources theory: its implication for stress, health, and resilience. In: Folkman, S. (Ed.), *The Oxford Handbook of Stress, Health, and Coping*. Oxford University Press, Oxford, England, pp. 127–147.
- Hobfoll, S.E., Halbesleben, J., Neveu, J.P., Westman, M., 2018. Conservation of resources in the organizational context: the reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior* 5, 103–128.
- Kier, A.S., McMullen, J.S., 2018. Entrepreneurial imaginativeness in new venture ideation. *Acad. Manag. J.* 61, 2265–2295.
- Kuckertz, A., Brändle, L., Gaudig, A., Hinderer, S., Morales Reyes, C.A., Prochotta, A., et al., 2020. Startups in times of crisis – a rapid response to the COVID-19 pandemic. *J. Bus. Ventur. Insights* 13, e00169. <https://doi.org/10.1016/j.jbvi.2020.e00169>.
- McMullen, J.S., Kier, A.S., 2016. Trapped by the entrepreneurial mindset: opportunity seeking and escalation of commitment in the Mount Everest disaster. *J. Bus. Ventur.* 31, 663–686.
- Meyer, A.D., 1982. Adapting to environmental jolts. *Administrative Sci. Quar.* 27 (4), 515–537. <https://doi.org/10.2307/2392528>.
- Muñoz, P., Naudé, W., Williams, N., Williams, T., Frías, R., 2020. Reorienting entrepreneurial support infrastructure to tackle a social crisis: a rapid response. *J. Bus. Ventur. Insights* 14, e00181. <https://doi.org/10.1016/j.jbvi.2020.e00181>.
- Norrbottenskuriren, 2020. Norrbottenskuriren. (Accessed 27 March 2020).
- OECD, 2020. Tackling Coronavirus (COVID-19): Contributing to a Global Effort. OECD. <http://www.oecd.org/coronavirus/en/>.
- Penrose, E.T., 1959. *The Theory of the Growth of the Firm*. John Wiley, New York.
- Politis, D., 2005. The process of entrepreneurial learning: a conceptual framework. *Enterpren. Theor. Pract.* 29, 399–424.
- Powell, E.E., Baker, T., 2014. It's what you make of it: founder identity and enacting strategic responses to adversity. *Acad. Manag. J.* 57, 1406–1433.
- Reuer, J.J., Koza, M.P., 2000. On lemons and indigestibility: resource assembly through joint ventures. *Strat. Manag. J.* 21, 195–197.
- Regionfakta, 2020. Regionfakta. (Accessed 26 June 2020).
- Region Norrbotten, 2020. Region Norrbotten. (Accessed 5 July 2020).
- Roux-Dufort, C., 2007. Is crisis management (only) a management of exceptions? *J. Contingencies Crisis Manag.* 15, 105–114.
- Roux-Dufort, C., Lalonde, C., 2013. Exploring the theoretical foundations of crisis management. *J. Contingencies Crisis Manag.* 21, 1–3.
- Sarkar, S., 2020. Global Economic Contraction to Be Steepest on Record, Recovery U-Shaped: Reuters Poll. <https://www.reuters.com/article/us-global-economy-poll/global-economic-contraction-to-be-steepest-on-record-recovery-u-shaped-reuters-poll-idUSKCN22600U>.
- Shepherd, D.A., 2003. Learning from business failure: propositions of grief recovery for the self-employed. *Acad. Manag. Rev.* 28, 318–328.
- Shepherd, D.A., Williams, T.A., 2019. *Spontaneous Venturing: an Entrepreneurial Approach to Alleviating Suffering in the Aftermath of a Disaster*. MIT Press, Cambridge, MA.
- Shepherd, D.A., Williams, T.A., Patzelt, H., 2015. Thinking about entrepreneurial decision making: review and research agenda. *J. Manag.* 41, 11–46.
- Sonenshein, S., 2014. How organizations foster the creative use of resources. *Acad. Manag. J.* 57, 814–848.
- Sveriges Radio, 2020a. Sveriges Radio. (Accessed 9 May 2020).
- Sveriges Radio, 2020b. Sveriges Radio. (Accessed 13 May 2020).
- Taleb, N.N., 2007. Black swans and the domains of statistics. *Am. Statistician* 61, 198–200.
- Tannenbaum, C.R., Boyle, R.J., Tandon, V., 2020. Small Businesses and Oil Market Shocked by COVID-19, but Don't Rush Reopening. *Advisor Perspectives*. <https://www.advisorperspectives.com/commentaries/2020/04/24/small-businesses-and-oil-market-shocked-by-covid-19-but-dont-rush-reopening>.
- Thorgren, S., Wincet, J., 2015. Passion and habitual entrepreneurship. *Int. Small Bus. J.: Researching Entrepreneurship* 33, 216–227.
- Williams, T.A., Shepherd, D.A., 2016a. Building resilience or providing sustenance: different paths of emergent ventures in the aftermath of the Haiti earthquake. *Acad. Manag. J.* 59, 2069–2102.
- Williams, T.A., Shepherd, D.A., 2016b. Victim entrepreneurs doing well by doing good: venture creation and well-being in the aftermath of a resource shock. *J. Bus. Ventur.* 31, 365–387.
- Williams, T.A., Shepherd, D.A., 2018. To the rescue!? Brokering a rapid, scaled and customized compassionate response to suffering after disaster. *J. Manag. Stud.* 55, 910–942.
- Williams, T.A., Shepherd, D.A., 2020. Bounding and Binding: Trajectories of Community-Organization Emergence Following a Major Disruption. *Organization Science*, Forthcoming.

- Williams, T.A., Gruber, D.A., Sutcliffe, K.M., Shepherd, D.A., Zhao, E.Y., 2017. Organizational response to adversity: fusing crisis management and resilience research streams. *Acad. Manag. Ann.* 11, 733–769.
- Williams, T.A., Thorgren, S., Lindh, I., 2019. Rising from failure, staying down, or more of the same? An inductive study of entrepreneurial reentry. *Academy of Management Discoveries*.
- Winborg, J., Landström, H., 2001. Financial bootstrapping in small businesses: examining small business managers' resource acquisition behaviors. *J. Bus. Ventur.* 16, 235–254.