

Business Recovery After Disaster

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THEME: Business Characteristics

Small businesses are those organizations who are smaller, less competitive and who achieve lower financial performance than their large peers, while at the same time being nimbler, more innovative, less complicated, and run by decision makers able to make choices quickly. Many studies of business recovery focus on a range of business characteristics as a predictor of recovery. These characteristics include size, owner/ownership characteristics, sector, pre-disaster condition (of the business and economy of the community), attachment to place, and age.¹ Findings relevant to these are discussed below.

The **size** of a business influences recovery.² For most studies business size is defined by the number of employees but other size definitions refer to the amount of revenue generated by business.³ Despite differences in how business size is measured across studies⁴ (i.e. small as less than five employees, whereas others define small as less than 50 employees.⁵) smaller

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businesses typically have more difficulty recovering than larger businesses (also referred to as corporations in the literature) due to lack of resources such as financial capital or insurance.⁶ In turn, smaller businesses typically recover at a slower pace than larger businesses. If a business relies on selling goods and services only at a local level versus for a regional, national, or international market, they are less likely to recover.

Owner/ownership characteristics have a moderate influence on whether a business recovers.⁷ Female-owned businesses are most likely to face additional challenges during recovery given to gender-based vulnerabilities and access to resources. These challenges include access to capital, decreased mobility, and difficulty receiving approval for financial assistance or adequate lower loan amounts.⁸ The ethnicity of the business owner is often mentioned, with non-white owned businesses more likely to fail or be worse off than before the disaster, circumstances attributed to less access to resources.⁹ Education of the owner is less commonly studied, but in those articles that have included this variable, owners with higher levels of education have a greater likelihood of recovery.¹⁰ Findings do not indicate a relationship between the age of the business owner and the recovery of the business. It is important to mention that, although not frequently discussed, building ownership is another attribute that has recovery ramifications: those business owners who own the building where their business is located (as opposed to renting) are more likely to recover.¹¹

Business sector is an important factor that influences the likelihood of recovery. Distinctions like retail/wholesale/trade, manufacturing, construction, and financial/insurance/real estate (FIRE)¹² are consistently good predictors of recovery. In general, retail/trade/wholesale sectors are most negatively impacted by a disaster and are at greater risk of failing.¹³ The construction sector may experience an increase in demand immediately following a disaster that involves structural damage, though this demand often levels off in the long-term recovery process.¹⁴ This review did not find e consistent information about recovery in other sectors.

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Pre-disaster condition is one of the key predictors of a business' post-disaster recovery.¹⁵ The majority of the research states that if a business is doing well before a disaster, they are more likely to recover post-disaster. Conversely, if a business is struggling, they will have a more difficult recovery process. However, it is important to note that some businesses that were well-off (financially sound) prior to the disaster stated they perceived that they were worse off after a few months to years after the disaster. These results show the difficulty in comparing perceptions of the business owner rather than economic data.¹⁶ In addition to how the business was doing prior to the disaster, another predictor is the overall economic climate of the community the business belongs to.¹⁷ Although more research needs to be conducted, economic trends may have an influence on a business's recovery.¹⁸

At times, a business' **attachment to place, a business' affinity for a particular geographic location due to cultural, religious, social, or emotional reasons**, can sometimes be a predictor of failure. Findings suggest that those with greater attachment to place are less likely to recover than those without such attachments who can move to a more lucrative location, as many stated it was more difficult to adapt when relocation may prove a better option.¹⁹

Finally, the **age** of the business impacts the recovery process, but with mixed results.²⁰ Some studies find that older businesses are more likely to recover because experience dealing with adversity has made them more resilient to future disasters.²¹ As such, their recovery process is often shorter and more effective. On the other hand, sometimes older businesses are less agile, therefore making it difficult to pivot and adapt based on the issues presented by the disaster. Moreover, older businesses are sometimes located in older buildings that may suffer worse physical damage due to structural vulnerabilities.²²

The inconsistencies between studies can be attributed to the fact that geographical location, disaster type, and wide economic trends may have stronger effects compared to the characteristics of the business.²³

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THEME: Disaster Impacts

There are a range of impacts on a business following a disaster. **Physical damage** can present as structural damage to a building's foundation or non-structural damage like broken windows, or damaged furniture, equipment, or inventory.²⁴ In most cases, structural and physical damage for the business facility or inventory itself have less of an impact on recovery than damage to the community utilities, local infrastructure, and government services like postal services and roads.²⁵ Access to utilities (known as **lifeline systems**) such as electricity, telephone, water and wastewater, and natural gas services, often dictates whether businesses are forced to close with or without their own damage.²⁶ Electricity and phone or internet services are essential services for most businesses.²⁷

For businesses that are forced to close because of physical damages or loss of services, the **length of closure** is an important predictor for whether they will recover at all. The longer the closure, the less likely a business is to reopen regardless of resources available for repair.²⁸ These lengths are important indicators of recovery despite inconsistency in measurement of time-period in the literature. The actual length of closure observed varied between all the studies, from a few hours to a few weeks and long closures were anywhere from a few days to a few years.²⁹ Location in relation to structural damage is also a significant factor in recovery, in that businesses located closer to an event (such as closeness to an earthquake epicenter) have a more difficult time recovering.³⁰

Supply chain interruption and continuity are critical for recovery. Many businesses with no physical damage can experience significant impacts from supply chain interruptions and may be forced to close because of this indirect effect.³¹

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The **time of year** of a disaster has an influence in some cases, particularly for services or locations that involve a tourism season.³²

Regardless of physical damages the **emotional and psychological wellbeing** of employees was a factor in whether some business reopened at all. These considerations of emotional and psychological impacts are often overlooked in recovery planning.³³

Attachment to place, the emotional bond between a person and a place, has prevented some business owners from making the difficult, yet rational decision to relocate.

Population displacement is a very significant factor in business recovery, including loss of either staff and/or customer base.³⁴ Business recovery can be interrupted when employees suffer personal injury (physically or psychologically) or damage to their housing, forcing them to relocate temporarily or permanently.³⁵ If the affected area has a large availability of workers and the business does not require skilled laborers, recovery can be expedited.³⁶ Temporary loss of customer base is a significant factor in recovery, be it because of business closure, infrastructure damage, transportation disruption to business centers, or neighboring businesses closure reducing customer traffic; but this is more so if redevelopment causes the entire customer base to move or fundamentally change.³⁷ Customer base changes are connected to relocation, as relocation of a business brings more changes in the clientele creating more disruption in the community.³⁸ Whether the business or the clientele moved, customer base changes can prove disruptive to recovery.

THEME: Post-Disaster Finances

How businesses finance their recovery also matters and can influence recovery. The literature has examined four main sources of finance, each with strengths and limits: insurance claims, personal

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savings, loans, and grants.³⁹ For our review, aid or financial assistance is defined as grants and loans from the governments, whereas other loans implies support directly from a financial institution (e.g. bank).

Although the literature overall supports the use of **insurance**, the type of insurance coverage and the insurance affordability (cost, return on investment) are consequential considerations. Frequently, businesses do not have the correct type of insurance to cover the physical damage (specific flood or earthquake insurance) or nonstructural losses such as loss of revenue during closure.⁴⁰ Although sometimes all these types of insurance are not available, for those that are available the perception of some business owners is that the cost of insurance is not worth the investment since insurance either was not affordable and/or the likelihood of a disaster occurring was perceived as being low.⁴¹ In relation to business characteristics, smaller businesses are less likely to have insurance or adequate insurance compared to larger businesses since larger businesses tend to have more resources to draw from overall.⁴²

Business owners often turn to their **personal and/or family savings** to fund recovery.⁴³ Many smaller businesses are more likely to rely on these personal savings.⁴⁴ This approach can sometimes speed up recovery since owners have access to capital to initiate repairs and reconstruction; however, this approach can also reduce financial security and remove investment opportunities. Sometimes depleting savings can lead to owners being worse off months and even years after the disaster, despite remaining open.

Loans, such as those from the Small Business Association (SBA) loans and banks, are a common recovery approach. Overwhelmingly, the research shows that utilizing loans to finance business recovery negatively impacted businesses. The literature cites such reasons for this outcome, such as the amount of time to complete the application process, the difficulty in meeting qualification requirements, loan amounts that were often insufficient to meet full recovery needs, and increased business and/or personal debt.⁴⁵ In addition, loans are less likely to be approved for non-white

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business owners, and female business owners are found to receive less money than their male counterparts.⁴⁶

Although grants are available for individuals and households, they are not widely available for businesses.⁴⁷ In the limited cases where grants were available, they typically improved the condition of businesses because they did not require repayment. However, some noted that grants often required a time consuming and demanding application process, which deterred many owners from applying. Further, most programs are not granted in a timely manner to be the most effective.⁴⁸

THEME: Pre-Disaster Planning

Business preparedness and planning have been studied, particularly as it relates to business continuity plans, disaster planning, dedicated staff member(s) in emergency/risk planning, insurance, stockpiling emergency supplies, emergency training for staff, and structural mitigation (i.e. retrofitting).⁴⁹ What the research finds is that preparedness actions are typically conducted by larger, older and more financially stable businesses.⁵⁰ The literature suggests that these entities are more prepared than their smaller, newer, and less financially stable counterparts due to the greater financial and human resources to develop these types of plans. Businesses that owned instead of leased their space were more likely to engage in preparedness activities, while those that leased were limited in their ability to take for some actions, like structural mitigation.⁵¹ Some studies included purchasing insurance as a preparedness measure.⁵² Surprisingly, the literature doesn't find any significant linkage between business preparedness and business recovery.⁵³ This isn't to say preparedness is pointless, but rather could suggest that disaster preparedness and business continuity planning are alone enough to mitigate against the impact of other business characteristics, or that strong plan do not always result on well-communicated or successfully implemented plans.⁵⁴ Some preparedness actions may only focus on life-safety, such as owning a first aid kit or having extra water on site, and not reduce physical damage or recovery time. Still, if

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a business engaged in any type of preparedness activity, they were also more likely to engage in mitigation.⁵⁵

Another example of pre-disaster planning is the actions taken at the onset of a disaster or storm preparation (typically a hurricane), such as boarding up windows, backing up data, moving around machinery or inventory, and creating a communication plan with staff.⁵⁶ These actions tend to positively impact the business in the short-term but are not necessarily helpful for long term recovery.⁵⁷

THEME: Post-Disaster Actions & Recommendations

Along with providing results from their studies, some authors also include suggestions for post-disaster actions based on the individual case studies. However, not all of these recommendations have been empirically tested.⁵⁸

In focusing on what is best for business it has been suggested that **relocation** should be an option in an aid package and preparedness measures.⁵⁹ Research shows that relocating gives some establishments a better chance of a successful recovery. The research does not include a direct comparison between long term and short term closures; however, the majority of the relocations are considered short-term arrangements until the original location was fully functional, unless the timeline is expanded for very severe damage.⁶⁰ It's important to keep in mind the **age** characteristics of the business since older establishments tend to stay in their original location in order to retain customers or because of their place-attachment.

Another important consideration in the design of government assistance programs is how to provide aid collectively, instead of individually. **Community-wide** initiatives could facilitate

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coordination and cooperation between businesses to recover together.⁶¹ Neighborhood condition is an important contributor to loss, as is shown in different case studies, particularly for smaller businesses that depend on the local traffic for revenue.⁶²

Additionally, **time and speed** were found to be crucial variables that serve as a determinant for business continuity. If an effort is made by local governments to speed up the re-opening of businesses, it serves as a positive indicator for business recovery.⁶³

Physical damage sustained during a disaster is a product of pre-existing vulnerabilities rather than solely a product of the hazard.⁶⁴ Consequently, preparedness efforts are recommended by some researchers but there is insufficient research to suggest preparedness and recovery planning - as a post-disaster action - make a difference in a future disaster. However, engaging in disaster planning and implementation that fits the business's needs and actual risks can reduce physical damage and impact recovery.⁶⁵ Most studies show that when businesses poorly and inadequately prepare, they may have a false sense of security regarding how well-off they will be after a disaster.⁶⁶

Endnote: This summary was written before COVID-19. COVID-19 presents unique challenges which the established literature on disasters has rarely had the opportunity to address, for it does not create the physical damage which is so often the focus of response and recovery. Moreover, where everyday emergencies, disasters like annual floods, and catastrophes like Hurricane Katrina cost hundreds of billions, the pandemic is estimated to have already cost the United States trillions (as of June 2020). Afflicting every state and many nations around the world, COVID-19 had devastating impacts on local as well as global commerce. Its geographic scope is far broader than anything experienced in modern history. The characteristics, levels of planning, intensity of impact, post-disaster finance, and the recommendations presented here are the current state-of-the-art in understanding disaster, but they have not been tested at the scale of a global pandemic.

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⁴ Asgary et al., 2012; Chang, 2010; Chang and Falit-Baiamonte, 2002; Dahlhamer and Reshaur, 1996; Dahlhamer et al., 1999; Han and Nigg, 2011; Marshall et al., 2015; Nigg, 1995; Runyan, 2006; Tierney, 2007

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