The Effects of Distressed Institutional Infrastructure on Entrepreneurial Firms: A Case Study of Jackson, Mississippi

Sharon A. Simmons, Ph.D. and D. Anthony Miles, Ph.D.

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Background & Research Question

Jackson faced consecutive crises: 2020 flood and 2022 water system collapse.

Research Question: How do infrastructure crises affect entrepreneurial firm survival?

Focus: Comparing young vs. established firms, and the role of industry context.

Gap: Limited research on institutional infrastructure failure and entrepreneurship.

Jackson’s Infrastructure Crises

2020 Pearl River Flood: Inundated neighborhoods and businesses.

2022 Water Treatment Collapse: 160,000 residents and businesses lost reliable water.

Both events destabilized Jackson’s entrepreneurial ecosystem.

Theoretical Framework

- Organizational Ecology: Shocks act as selection pressures.
- Liability of Newness: Young firms vulnerable to failure.
- Structural Inertia: Older firms rigid, less adaptable.
- Asset of Newness: Post-crisis startups may benefit from flexibility.

Data & Methodology

- Data: 57,858 firms from Mississippi Secretary of State registry.
- Variables: Firm age, industry, status (active/dissolved).
- Cohorts: Pre-crisis, Crisis-period, Post-crisis.
- Methods: Logistic regression and survival analysis.

Table 1: Business Survival Rates by Cohort

Table 1 Business Survival Rates by Founding Cohort

Founding Cohort	Firm Age in 2025	# of Firms	Jackson Survival (%)	Mississippi Survival (%)	National Survival (%)
Pre-crisis (≤2019)	6+ years	27,455	36.0	42.0	49.0
Crisis-period (2020)	5 years	6,214	28.0	40.5	48.5
Crisis-period (2021)	4 years	8,128	24.0	45.0	53.5
Crisis-period (2022)	3 years	5,519	31.0	52.0	61.2
Post-crisis (2023)	2 years	5,087	38.0	60.0	67.6
Post-crisis (2024)	1 year	5,455	99.0	75.0	79.3

Note. Jackson data are drawn from the Mississippi Secretary of State (2025). Mississippi and national survival rates are based on U.S. Bureau of Labor Statistics (2024) *Business Employment Dynamics* series (state-specific data for Mississippi and national data for the U.S.), and U.S. Small Business Administration (2023).

Hypothesis 1

Businesses founded during the Jackson infrastructure collapse will exhibit higher failure rates than those founded in stable times.

Results – Hypothesis 1

Crisis-period firms survival: 24–31%, far below national (49–61%).

Pre-crisis firms: 36% survival vs. 49% nationally.

Supports H1: crisis-born businesses failed at higher rates.

Hypothesis 2

Businesses founded in the post-crisis recovery period will have higher survival rates than those established prior to the crisis.

Results – Hypothesis 2

- 2023 cohort survival: 38% vs. pre-crisis 36% (lower than national 67%).
- 2024 cohort survival: 99%, much higher than Mississippi 75% and National 79%.
- Partial support for H2: post-crisis firms sometimes show 'asset of newness'.

Hypothesis 3

During the Jackson infrastructure crisis, older businesses were more likely to dissolve than younger businesses, reflecting structural inertia.

Results – Hypothesis 3

- Pre-crisis firms: 36% survival, below national 49%.
- Crisis 2020–22 firms: survival 24–31%, even lower.
- Mixed support for H3: structural inertia hurt some older firms, but crisis-born suffered most.

Table 2 Crosstabulation of NAICS Industry Categories and Firm Status in Jackson, MS (N = 57,858)

NAICS	Industry Description	Dissolved	Active	% Active	Total
11	Agriculture, Forestry, Fishing	509	441	0.46	950
21	Mining, Quarrying, Oil & Gas	251	230	0.48	481
22	Utilities	39	34	0.47	73
23	Construction	2,492	1,276	0.34	3,768
31–33	Manufacturing	1,552	615	0.28	2,167
42	Wholesale Trade	1,349	596	0.31	1,945
44–45	Retail Trade	5,678	1,712	0.23	7,390
48–49	Transportation & Warehousing	2,822	1,271	0.31	4,093
51	Information	863	354	0.29	1,217
52	Finance & Insurance	1,207	792	0.40	1,999
53	Real Estate and Rental & Leasing	3,238	3,568	0.52	6,806
54	Professional, Scientific, Technical	3,512	2,362	0.40	5,874
55	Management of Companies	209	403	0.66	612
56	Administrative & Support Services	2,416	1,070	0.31	3,486
61	Educational Services	518	655	0.56	1,173
62	Health Care & Social Assistance	1,519	1,462	0.49	2,981
71	Arts, Entertainment & Recreation	1,189	725	0.38	1,914
72	Accommodation & Food Services	1,747	782	0.31	2,529
81	Other Services (except Public Admin.)	4,934	3,219	0.39	8,153
92	Public Administration	123	124	0.50	247
Total		**36,167**	**21,691**	**0.37**	**57,858**

Note. Data are from the Mississippi Secretary of State (2025). Percentages in columns 4 indicate the proportion of firms active within each NAICS category relative to that category's total.

Hypothesis 4a

In infrastructure-dependent industries, the liability of newness was less significant because older businesses also struggled.

Infrastructure-dependent: Construction (23), Accommodation & Food (72), Healthcare & Social Assistance (62).

Infrastructure-independent: Information (51), Professional/Scientific/Technical (54).

Table 3: Logistic Regression of Infrastructure-Dependent vs. Infrastructure-Independent Firms

Variables	*B*	S.E.	Wald	*df*	*Exp* (b)	*p*
NAICS Code 62	.008	.001	161.546	1	1.008	<.001
NAICS Code 72	-.004	.001	40.787	1	.996	<.001
NAICS Code 23	-.006	.002	16.978	1	.994	<.001
NAICS Code 51	-.007	.001	33.435	1	.993	<.001
NAICS Code 54	.002	.001	19.198	1	1.002	<.001
Constant	-.5.21	.010	2637.163	1	.594	<.001

***p = .001

Results – Hypothesis 4a

- Accommodation & Food survival: 31%, Healthcare: 49%.
- Infrastructure-independent sectors (Information 29%, Professional Services 40%) fared worse.
- Regression: infrastructure-dependent slightly better odds; H4a not supported.
- Explanation: Infrastructure-dependent industries may have benefited from emergency aid/resources.

Hypothesis 4b

Industries with public-facing sectors had higher dissolution rates during the crisis.

- Public-facing: Retail (44–45), Arts/Entertainment/ Recreation (71).
- Non-public-facing: Finance & Insurance (52), Management of Companies (55).

Table 4: Logistic Regression of Public Sector Firms vs. Non-Public Sector Firms

Variables	*B*	S.E.	Wald	*df*	*Exp* (b)	*p*
NAICS Code 44-45	-.017	.001	686.459	1	.983	<.001
NAICS Code 71	-.001	.001	1.572	1	.999	.210
NAICS Code 52	.000	.001	.078	1	1.000	.780
NAICS Code 55	.020	.002	161.785	1	1.020	<.001
Constant	-.434	.010	2068.363	1	.648	<.001

***$p = .001$

Results – Hypothesis 4b

- Retail survival: 23%, lowest of all industries – strong evidence for higher dissolution among public-facing firms.
- Arts/Entertainment survival: 38%, not statistically significant in regression.
- Non-public-facing: Management survival 66% (highest), Finance survival 40%.
- Conclusion: Hypothesis 4b partially supported – only some public-facing sectors were more vulnerable.

Discussion

- Liability of newness magnified under Jackson’s crises.
- Post-crisis firms sometimes benefited from 'asset of newness'.
- Established businesses also failed at rates comparable to national averages for new firms.
- Industry mattered: Retail survival only 23%, Healthcare 49%, Management 66%.
- Manufacturing showed unexpectedly low survival, likely due to water dependency.

Policy & Practice Implications

- Infrastructure reliability is critical for business survival; investments in water and flood systems directly support entrepreneurship.
- Crisis interventions should prioritize vulnerable cohorts—young firms and those in critical service sectors like Retail and Food.
- Support programs (grants, loans) during crises can prevent temporary shocks from becoming permanent closures.
- Policy must target infrastructure-dependent industries, ensuring continuity of operations when lifeline services fail.
- Local government should improve coordination with entrepreneurs during emergencies (e.g., water delivery, communication).

Contributions

Extends organizational ecology by showing how liabilities of newness operate under disaster conditions.

Introduces water infrastructure as a resource often overlooked in entrepreneurship research.

Demonstrates that infrastructure shocks moderate survival patterns by firm age and industry.

Finds evidence of 'asset of newness' for post-crisis startups, adding nuance to existing theory.

Provides Mississippi-specific insights linking infrastructure stability to small business survival.

Future Research Directions

- Conduct longitudinal studies tracking firms before, during, and after infrastructure crises.
- Examine firm-level factors such as size, capitalization, leadership, and adaptive strategies.
- Compare Jackson's outcomes with other cities experiencing infrastructure breakdowns.
- Incorporate qualitative methods (interviews, case studies) to capture entrepreneurial responses.
- Test interaction effects between age, industry, and infrastructure dependence to refine theory.

Conclusion

- Infrastructure crises amplify liabilities of newness, raising dissolution rates for young firms.
- Established firms are also vulnerable: pre-crisis survival was lower than national benchmarks.
- Industry context shapes outcomes: water-dependent and public-facing sectors faced sharp challenges.
- Post-crisis startups showed strong survival, illustrating an 'asset of newness' in recovery periods.
- Findings refine entrepreneurship theory and underscore infrastructure as vital for business resilience.

Thank You

Questions & Discussion

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