# Small Business Digitization Before, During and After COVID-19 Pandemic

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A supply chain can be defined as a system that facilitates the connections and flows among one or more partners, producers, wholesalers, retailers, or customers.3 This research aims to better understand the COVID-19 Pandemic's role in small business supply chain disruptions and digital solutions. Small businesses are essential to the American economy, employing nearly half of the U.S. workforce(2). Unfortunately, small businesses were one of the most impacted organizations by the Pandemic. As a result, small businesses were forced to engage in the digital transformation of their supply chains to further their survival. We saw examples of the digital transformation of small business supply chains through the increased use of digital communication technologies and digital platforms that enabled organizations to continue conducting business in their new environments. These digital solutions became essential for small businesses to continue.

When examining these small businesses and their digitization of business processes, it is important to look at how these processes have changed over time. This perspective was used in the creation of our research question: How has the digitization process for small businesses changed from before, during, to after the Pandemic? Using this question as the basis for all our research, we conducted a systematic literature review to better understand the evolution of small business supply chain information systems in the context of the COVID-19 Pandemic.



**Fig. 1.** Illustrates the research Framework of Small Business Digitization Periods

We used a structured systematic literature review to answer our research question. First, records were pulled from business, social science, and technology-related databases. Keywords and phrases such as "small businesses," "digitization," and "COVID-19 Pandemic" were identified and used during the process. Records were then assessed for their relevancy. Finally, records were organized by period as outlined in our framework: before, during, and after the COVID-19 Pandemic. This research's timeline of the COVID-19 Pandemic spanned from March 2020 through the end of 2021. We created a PRISMA diagram to allow our research to be replicated(6).

After screening our results for eligibility, we identified 33 records and counted the number of records from each period.

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We created this bar chart as a visual representation to show the number of records related to the need for small business digitization written before, during, and after the COVID-19 Pandemic. The number of records written during and after the Pandemic is significantly greater than the number of records received before the Pandemic. This relationship quantitatively shows the Pandemic's role in sparking a need for the digitization of small businesses.

Next, we took the records from each period and extracted themes. Before the COVID-19 Pandemic, the focus was on the digital readiness of small businesses(8). When the Pandemic began, the discussion quickly shifted from the possibility of future digitization to the absolute need for digitization as soon as possible. We found that themes focused on using digitization to survive the COVID-19 Pandemic, using AI as a means of digitization, and opportunities to implement digitization in business processes(1,5,9). In the period after the COVID-19 Pandemic, new themes emerged. These themes focused on the digital solutions needed to survive the lasting supply chain disruptions, the increase in telework after the Pandemic, and sustainability through digitization(3,4,7). From these themes we can better understand how the narrative of small business digitization shifted from before, during, to after the COVID-19 Pandemic.

Before the COVID-19 Pandemic, there was little research surrounding small business digitization, likely because there was little need for small businesses to digitize. During the COVID-19 Pandemic, small businesses had to improve business processes and customer satisfaction with digitization solutions. After the COVID-19 Pandemic, a new normal surfaced. Employees continued to work from home and use digital platforms to work and communicate. COVID-19 has made a lasting impression on business processes. Most implementations, especially surrounding digitization, proved to last.

A more comprehensive answer to the research question can be found using an analysis of media portrayals of small businesses before, during, and after the COVID-19 Pandemic. Reviewing theory from the literature, creating focus groups, interviewing small business owners and employees, and soliciting a large-scale survey would also paint a broader perspective.

### Statement of Research Advisor

This systematic literature review sought to better understand the evolution of the supply chain information systems that allowed small businesses to withstand the COVID-19 Pandemic. Results from a thematic analysis of selected research articles indicate that the literature focused on digital readiness in the period before the COVID-19 Pandemic. In the periods during the COVID-19 Pandemic overall themes related to specific technologies such as AI, Web 4.0, and survivability. In the period after the COVID-19 Pandemic, research focused on solutions to reduce disruptions and increase sustainability, among other themes. Future research in this area could benefit from the application of one or more theories on organizational survival, sustainability, and resiliency as well qualitative research data from small business owners and media portrayals. - Atiya Avery, Harbert College of Business

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## **Authors Biography**



Audrey Osborne is a junior at Auburn University pursuing degrees in Accounting & Information Systems Management. She is an undergraduate research fellow for the Department of Information Systems and Technology. She has presented these findings at the Southern Association for Information Systems as well as the Auburn Student Research Symposium.



Atiya Avery is an Assistant Professor of Information Systems Management at the Harbert College of Business at Auburn University. Her research interests include infrastructure governance, security breach mitigation and recovery, surveillance, and the changing nature of work. With a Ph.D. in Management Information Systems from the University of Illinois at Chicago, she also holds the Associate in Risk Management, Security+, and Certified Information Systems Security Professional (CIS-SP) designations. Dr. Avery enjoys working with student scholars as she always learns something new along the way.