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ADDRESSING DECLINING SMALL BUSINESS DYNAMISM IN DICKENSON COUNTY, VIRGINIA



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DISCLAIMER

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

HONOR PLEDGE

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.



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EXECUTIVE SUMMARY

The Appalachian community of Dickenson County, Virginia seeks to revitalize its post-coal economy through small business development. However, **the number of small businesses in the county continues to decline, with a 60 percent decrease in new establishment openings between 2001 and 2021** (U.S. Small Business Administration, 2022). Without action, the county's small businesses will likely disappear within the next 20 years.

Dickenson County faces countless regional and local obstacles that complicate the process of transitioning its economy. Population decline, generational poverty, mountainous terrain, limited broadband access, and a widespread lack of entrepreneurial education all impact the small business ecosystem and limit the available options to improve it.

Current and aspiring business owners in Dickenson County have expressed a desire for improved communication about available resources, opportunities for entrepreneurial education, and increased community engagement. This paper assesses three evidence-backed policy pathways to address declining small business dynamism in a manner that incorporates community preferences:

Alternative #1: Establishing a mentorship-based summer internship program between Ridgeview High School and local business owners.

This is a six-week program (18 hours/week) designed to engage young community members and build a pipeline of future local entrepreneurs.

Alternative #2: Hosting monthly business development workshops.

Workshop topics include the basics of starting a business, website design, leveraging social media and e-commerce platforms, determining pricing and managing costs, and navigating legal and financial structures.

Alternative #3: Developing and disseminating a small business resource directory.

Posted on the county website and distributed by email and mail, this resource consolidates information about technical assistance, entrepreneurial education, business planning resources, and capital sources at the local, state, and federal levels.

These alternatives have been evaluated for their cost, effectiveness, administrative feasibility, and equity over a 20-year period. Ultimately, **my analysis yielded Alternative #2, the business development workshop series, as the strongest option.** This intervention ranks highly on cost-effectiveness and is predicted to produce three times more businesses than Alternative #1 and ten times more businesses than Alternative #3. Moreover, Alternative #2 ranks highly for administrative feasibility and moderately for equity.

The workshop programming fills an important middle ground between the affordable but short-lived impact of Alternative #3 and the expensive, long-term investment that is Alternative #1. Dickenson County cannot afford to wait decades for an improvement in its business dynamism, but the county also cannot afford to spend its limited resources on quick, band-aid solutions.

INTRODUCTION

Up until the mid-to-late 1900s, Appalachian economies thrived from the coal industry. However, around the turn of the 21st century, mines began closing at an increasing rate, spurring residents to leave the region in droves (Harkins & McCarroll, 2019; Jordan et al., 2018). Experts suspect a combination of factors led to the decline of the industry and region. For one, innovation gains meant that mines required fewer workers to produce the same output (Jordan et al., 2018; Trisko, 2024; *What Is Killing the US Coal Industry?*, n.d.). Further, a decrease in the cost of natural gas and an increase in environmentally conscious mining regulations likely played some role in ushering out the coal industry. Regardless, coal is unlikely to make a comeback. Thus, Appalachian communities must pivot their economies if they want to survive (Gruenspecht, 2019).

Client Profile

This document has been prepared for the Dickenson County Industrial Development Authority and explores small business development strategies to improve the economic health of the area.



Figure 1: Dickenson County, Virginia is highlighted in red (“Dickenson County, Virginia,” 2024).

Dickenson County sits on the Virginia-Kentucky border and has a population of roughly 13,600 (US Census Bureau, 2022). The Dickenson County Industrial Development Authority (IDA) is responsible for promoting economic development and commercial growth within the county in addition to collaborating on regional initiatives (D. Cronkhite, personal communication, October 2023; *Industrial Development Authority of Dickenson County | Dickenson County, VA - Official Website*, n.d.). Led by Economic Development Director Dana Cronkhite, the IDA comprises a seven-person Board of Directors and reports to the Board of Supervisors. The IDA’s mission is “to promote a vibrant, diversified, and sustainable economy to enhance the quality of life for citizens of Dickenson County” (*Industrial Development Authority of Dickenson County | Dickenson County, VA - Official Website*, n.d.). Developing a dynamic small business ecosystem is a crucial piece of the IDA’s vision for economic diversification and health in the county (D. Cronkhite, personal communication, October 2023).

Problem Statement

In the wake of coal’s decline, Dickenson County, Virginia seeks to revitalize its economy through entrepreneurship and small business development. **However, the number of small businesses in the county continues to decline, with a 60 percent decrease in new establishment openings between 2001 and 2021** (U.S. Small Business Administration, 2022).

Small Business Openings and Closings in Dickenson County

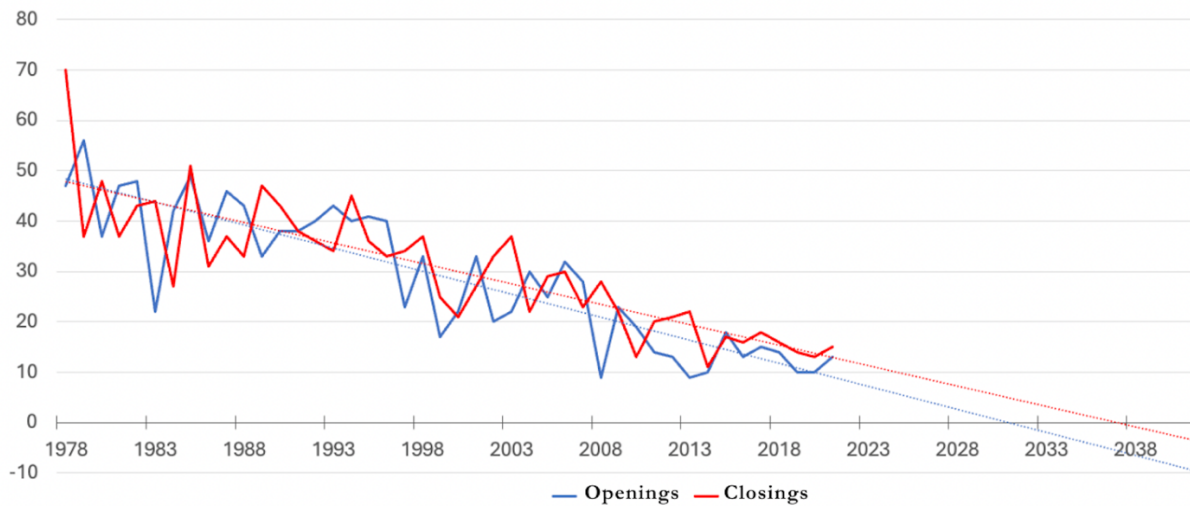


Figure 2: Graph depicting the declining number of businesses in Dickenson County with a 20-year projection from 2024. Without intervention, Dickenson County is projected to lose nearly all its businesses in the next 15 years (U.S. Small Business Administration, 2022).

BACKGROUND

Appalachia is an enormous region connected by a common topography, economy, history, and culture (*About the Appalachian Region*, n.d.). Appalachia consists of 13 states and 423 counties, stretching from Southern New York to Northern Mississippi. Central Appalachia—home to Dickenson County—encompasses West Virginia, Eastern Kentucky, Southwest Virginia, East Tennessee, and Western North Carolina.

The legacy of extractive coal and timber industries has shaped the economic landscape throughout Appalachia today, particularly in Central Appalachia (Harkins & McCarroll, 2019; US Census Bureau, 2022). The historic lack of economic diversification in Central Appalachian communities like Dickenson County has made the region vulnerable to economic downturns. As the United States continues to move away from coal, Central Appalachian communities have no other industry to which they can readily transition and have fallen into widespread poverty and severe population decline. Research suggests that entrepreneurship and small business could be the future of economic development and diversification in the region (Ricket et al., 2023; Stephens et al., 2013; Stephens & Partridge, 2011). However, countless regional and local obstacles stand in the way of a thriving entrepreneurial landscape in Dickenson County.

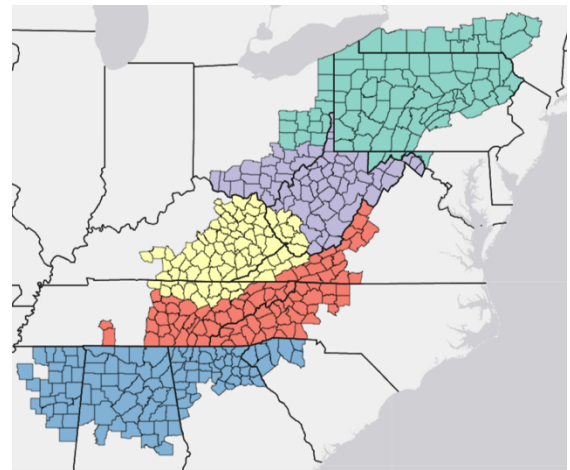


Figure 3: Map of Appalachia. Each color represents a different subregion with purple describing North Central Appalachia, yellow describing Central Appalachia, and red describing South Central Appalachia. These three subregions are often lumped together into Central Appalachia due to their similarities. Reprinted from the Appalachian Regional Commission website (*About the Appalachian Region*, n.d.).

Regional Factors

Many of the historically rooted, systemic issues contributing to the entrepreneurial challenges in Dickenson County are present throughout Central Appalachia (Bowen et al., 2020). Common obstacles like population decline, generational poverty, social stigma, terrain, limited broadband access, lack of economic diversification, and housing and commercial space shortages all shape the small business scene. To make matters worse, securing funding from the federal government to alleviate these issues is complicated.

Population Decline and Rural “Brain Drain”

Central Appalachia has seen a consistent decline in its population since the national shift away from coal (Bowen et al., 2020). The drop has been especially pronounced among working-age adults, contributing to widespread shortages in workers. Additionally, younger residents with higher levels of educational achievement are more likely to out-migrate than their less-educated peers. As a result, many rural areas have populations that skew older and are less educated on average (Carr & Kefalas, 2009). Between 2010 and 2021, Dickenson County lost more than 10 percent of its population (Cumberland Plateau Planning District Commission, 2023). Not only is the declining population preventing people from starting businesses, but it has also made it difficult for businesses to recruit and retain employees (R. Surratt, personal communication, October 2023; S. Wampler & J. Dillon, personal communication, October 2023).

Generational Poverty

Central Appalachia is the poorest region in all of Appalachia with a median household income of \$35,862, \$40,000 below the national average (Franklin & Boles, 2019; US Census Bureau, 2022). Dickenson has an even lower median household income of \$33,905. Roughly twenty-two percent of the County lives at or below the poverty line, more than double Virginia’s poverty rate and eight percentage points higher than the Appalachian average (ARC, 2018; *Subregions in Appalachia*, 2021; US Census Bureau, 2022). Poverty has declined across the board in recent years but remains highest in Central Appalachia (Bowen et al., 2020). Consequently, many residents lack the disposable income to start businesses without financial assistance (US Census Bureau, 2022).

Social Stigma/Public Perception

Historically, Appalachia has been viewed by much of the United States as poor, uneducated, and uncivilized, home to “yesterday’s people” (Morgan, 2002). Outsiders often avoid the region due to derogatory stereotypes of locals as “hillbillies” and the public’s association of the region with poverty, poor health and education, and substandard housing rather than natural assets, unique culture, and rich history (Shaffer, 2017). This negative perception means that outsiders are often hesitant to move to or visit Appalachia and choose to spend their money elsewhere.

Geography and Topography

Central Appalachia is characterized by mountainous terrain, deep gorges, and valleys (*Appalachian Mountains - Geology, Plateau, Valleys* | *Britannica*, 2018). These conditions make the region extremely ecologically diverse but can present significant challenges for residents and tourists alike.

Infrastructure is notoriously challenging to build due to the physical traits of the region. To work around the terrain, many counties like Dickenson are connected by backroads alone and have limited broadband, which is unappealing to many tourists and potential residents.

Limited Broadband Access

A massive undertaking in any rural area, broadband expansion in Central Appalachia is especially difficult due to its terrain (S. Wampler & J. Dillon, personal communication, October 2023). As of 2021, only 72.7 percent of Dickenson County's households had broadband internet, a share 15 percentage points lower than the state average (US Census Bureau, 2022).

As part of a recent multi-program broadband rollout, however, Dickenson, Buchanan, Russell, and Tazewell Counties received a \$68.3 million investment in broadband infrastructure (*News Flash: Lenovisco's Newly-Announced Investment in Broadband Expansion*, 2023; S. Wampler & J. Dillon, personal communication, October 2023). Dickenson County is set to gain more than 6,500 connections through the rollout. This has the potential to lead to transformative change within their rural economy. Come late 2024, an estimated 90 to 95 percent of Dickenson County's residents will have access to high-speed broadband, creating an opportunity for new markets—driven by outside dollars—to emerge (Agrawal & Shybalkina, 2023; *News Flash: Lenovisco's Newly-Announced Investment in Broadband Expansion*, 2023). Research suggests that broadband's effect on entrepreneurial activity—while significant across the board—is particularly impactful among small and women-owned businesses in remote rural areas (Conroy & Low, 2022).

Housing and Commercial Space Shortages

The region is also experiencing a shortage of housing and retail space (D. Cronkhite, personal communication, October 2023; Harkins & McCarroll, 2019). Most Central Appalachian counties do not have enough safe, affordable housing for their existing population, let alone for families interested in visiting or moving to the area. Like housing, retail spaces are often controlled by absentee landlords—individuals who own and rent out properties from outside the property's local region—and thus require expensive renovations due to poor upkeep (J. Anderson et al., 2015; S. Little, personal communication, February 21, 2024). Moreover, building new homes and commercial spaces is challenging due to the region's terrain.

Historical Over-Reliance on One Industry

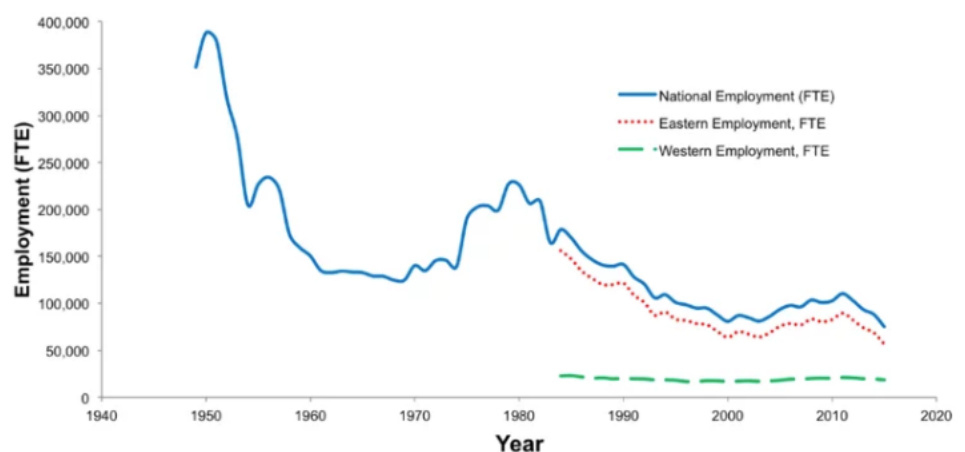
Central Appalachia and its skilled workers have felt the harsh economic consequences of over-relying on coal and timber. Former coal communities now face the daunting task of transitioning their skill sets to other fields or gaining new skills altogether. This is especially difficult given the aging population of the region.

Thus, few locals currently have the entrepreneurial education to start a business unaided.

Rural Development Funding

Federal and state funding pathways for rural development are notoriously disorganized and complex (T. Pipa, personal communication, October 2023). Current federal resources for rural development are spread

Figure 4: Graph displaying the decline in coal mining employment. Printed from the Energy Information Administration (What Is Killing the US Coal Industry?, n.d.).

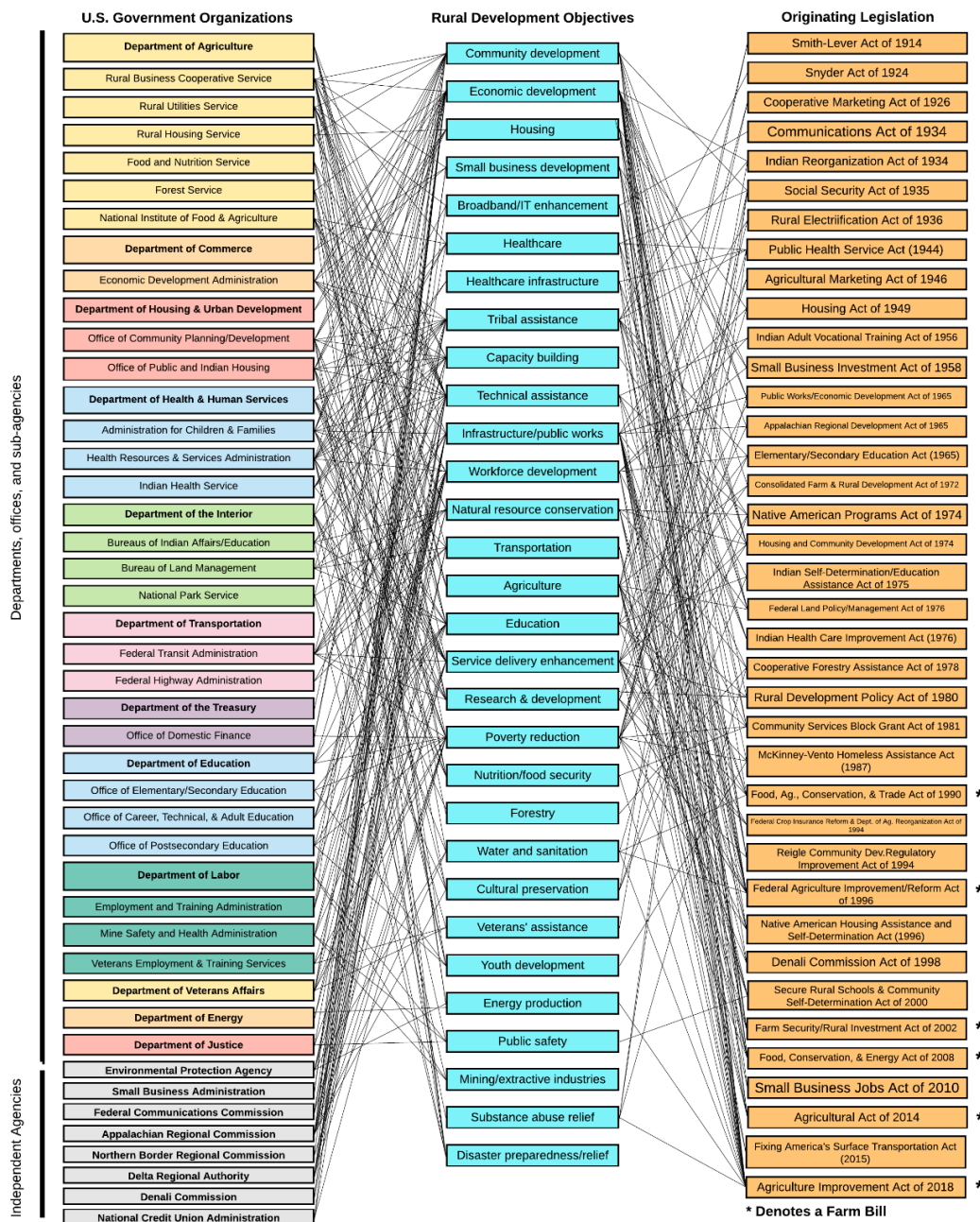


across more than 400 programs, 13 departments, and 50 offices and sub-offices, making it difficult for rural communities to identify and access the resources necessary to address their challenges (*Reimagining Rural Policy*, n.d.). Even for organizations well-versed in gathering capital, the application process can take a significant amount of time due to low resourcing in rural areas. For local governments and business owners who are inexperienced with navigating complicated state and federal funding pathways, this can feel confusing and overwhelming.

Figure 5: Web illustrating the complexity of rural funding pathways. Printed from the Brookings Institution's Reimagining Rural Policy initiative (Reimagining Rural Policy, n.d.).

Federal Development Assistance for Rural and Tribal Communities

While USDA is technically charged with directing federal rural policy, programs that promote rural and tribal development are spread widely throughout the government. No comprehensive and integrated strategy exists. As shown below, the array of legislation, directives, and programs meant to help these communities leads to significant confusion and fragmentation.



Local Factors

Not all Central Appalachian counties are struggling as severely as Dickenson to develop a thriving small business scene. Dickenson County has several county-specific obstacles that exacerbate regional economic factors (D. Cronkhite, personal communication, October 2023; S. Wampler & J. Dillon, personal communication, October 2023).

Infrastructure

Dickenson's distance from major roads means that commuters and tourists are far less likely to pass through the county, something the nearby Wise and Scott counties do not experience (J. Kilgore, personal communication, October 2023). There is little incentive to drive on backroads through a remote county with few businesses when there is a Walmart a few counties over. Similarly, the lack of major roads and hotels drives tourists to stay in other counties when visiting the natural assets of Southwest Virginia.

Insufficient Local Support

Low disposable income and undeveloped main streets have made it difficult for many Dickenson County locals to regularly support small businesses (D. Cronkhite, personal communication, October 2023; S. Wampler & J. Dillon, personal communication, October 2023). Moreover, the older population has traditional preferences when it comes to what they support in their community (A. Phillips, personal communication, January 2024).

Lack of Tourists

Dickenson County has minimal infrastructure to support tourism (D. Cronkhite, personal communication, October 2023). The absence of restaurants and hotels in downtown areas means tourists have no reason to stop in Dickenson County on their way to Breaks Interstate Park. Moreover, many existing businesses and tourist attractions in Dickenson County have outdated social media and websites, which can appear unappealing and unprofessional to visitors (S. Wampler & J. Dillon, personal communication, October 2023).

Entrepreneurial Education

Interviews with local and regional economic development groups and entrepreneurs point to a significant lack of business education at the county level contributing to the difficult entrepreneurial landscape (D. Cronkhite, personal communication, October 2023; J. Kilgore, personal communication, October 2023; S. Little, personal communication, February 21, 2024; A. Phillips, personal communication, January 2024; R. Surratt, personal communication, October 2023; S. Wampler & J. Dillon, personal communication, October 2023). Locals have little experience with business plan development, legal or financial business structures, website design, social media, marketing, cost management, accounting, capital sources, or e-commerce.

Due to the county's older demographics and limited broadband, many residents particularly struggle with more complex computer skills, which limits their ability to market their businesses (Dickes et al., 2010; Richmond et al., 2017; US Census Bureau, 2022). Most businesses in Dickenson County do not have websites and rely on Facebook for all their marketing needs (S. Wampler & J. Dillon, personal communication, October 2023). This is quickly becoming an outdated marketing tool, especially when it comes to reaching young people and tourists.

While Southwest Virginia has several regional economic development organizations and colleges that organize entrepreneurial support workshops, these programs are irregular, far away, and have stopped taking place altogether since the onset of the pandemic, making it difficult for Dickenson County residents to attend (R. Surratt, personal communication, October 2023; S. Wampler & J. Dillon, personal communication, October 2023). Workshops on Zoom are challenging due to limited broadband access (S. Wampler & J. Dillon, personal communication, October 2023).

Consequences of Declining Small Business Rates

Many of the consequences of declining small business dynamism are also the causes of it. Population decline and rural brain drain disincentivize locals from starting businesses in their community because of concerns over the consumer base, thus contributing to the eventual exodus of even more people (Carr & Kefalas, 2009; D. Cronkhite, personal communication, October 2023; Munawar et al., 2020; S. Wampler & J. Dillon, personal communication, October 2023). Similarly, the lack of tourism in Dickenson County means that very few people start businesses catering to tourists (D. Cronkhite, personal communication, October 2023; Moayerian et al., 2022; Munawar et al., 2020; R. Surratt, personal communication, October 2023). As a result, potential tourists avoid the area because of the absence of restaurants, shops, and activities. The continued decline of the county's economy and small business scene worsens generational poverty, making it even harder for people to start businesses, build generational wealth, and end the cycles of poverty, population decline, and low educational attainment (Harkins & McCarroll, 2019).

Addressing Misconceptions About Rural Americans

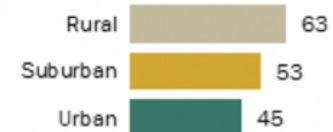
Throughout this project, many non-residents of Dickenson County asked me “Why doesn’t everyone just let the county continue its trajectory? Surely the residents want to move! And if you equip them with entrepreneurial skills and resources, they’ll just want to leave even more.”

This perspective fundamentally misunderstands rural Americans’ feelings about their communities. On average, rural Americans stay in their local communities for longer than their suburban and urban counterparts, and not just because they tend to be more resource-limited (Igielnik, 2018). Only a quarter of rural residents report that they “would move if given the chance” (Igielnik, 2018). This share is roughly ten percentage points lower than in suburban and urban areas. Of the rural residents who said they would like to move, only 20 percent said they would be interested in moving to an urban area. Bottom line: most rural Americans want to find a way to stay in their communities, but lack of opportunity has forced them out.

Many in urban, suburban and rural areas are longtime residents

% saying they ...

Have lived in local community for 11+ years



Would move if given the chance



Figure 6: Rural Americans have lived in their communities longer and are less interested in moving than suburban and urban Americans. Printed from the Pew Research Center's survey study “What Unites and Divides Urban, Suburban, and Rural Communities” (Igielnik, 2018).

EVIDENCE ON EXISTING INTERVENTIONS

As the number of small businesses in the county continues to decline, current and aspiring business owners have expressed a desire for improved communication about available resources, opportunities for entrepreneurial education, and increased community engagement (J. Johnson,

personal communication, December 2023; S. Little, personal communication, February 21, 2024; A. Phillips, personal communication, January 2024).

To understand potential policy solutions from the variety of angles desired by the community, this section explores several strategies for small business development, with most falling flat on the evidence front or failing to meet the unique needs of the county.

Incubators

Incubators are widely lauded by business leaders for launching successful startups around the country and the world (Harper-Anderson, 2011; Smith, 2023). These programs attempt to mitigate obstacles related to the size and newness of startups.

Incubators tend to involve rapid scaling through high-frequency technical support programming, business plan workshops, and networking. These strategies aim to facilitate young firms' growth in a short period and prepare them to leave the program financially viable with strong connections. As a result, incubator programs are demanding in terms of both time and resources, but many argue the costs are worth the benefits.

However, most small business development researchers disagree with business leaders about incubators' effect on firm performance and job growth (Eschker et al., 2017; Guerrero et al., 2012; Lukeš et al., 2019). Research indicates that incubator outcomes are highly variable and largely contingent on location and how strictly incubators adhere to costly best practice models. Incubators in high-wealth metropolitan areas tend to see more success but, on average, these programs appear to produce a negligible impact on revenue and job growth for incubated firms.

One role of an incubator is to serve as a boot camp for business plan development (Guerrero et al., 2012). A business plan is a written document that lays out a firm's strategy for operations, finances, and marketing into the future. Developing a formal business plan is often the first recommendation entrepreneurs receive, but researchers disagree about their effect on firm performance (Eschker et al., 2017; Guerrero et al., 2012; Lukeš et al., 2019; Mazzarol, 2001).

Eschker et al.'s survey (2017) surveyed startups that were three to four years old at the beginning and end of a one-year period, collecting data on industry type, owner demographics, years of experience, start-up costs, funding sources, initial profits, number of employees, network size, mentors, and assistance with capital. When possible, the researchers cross-referenced the reported

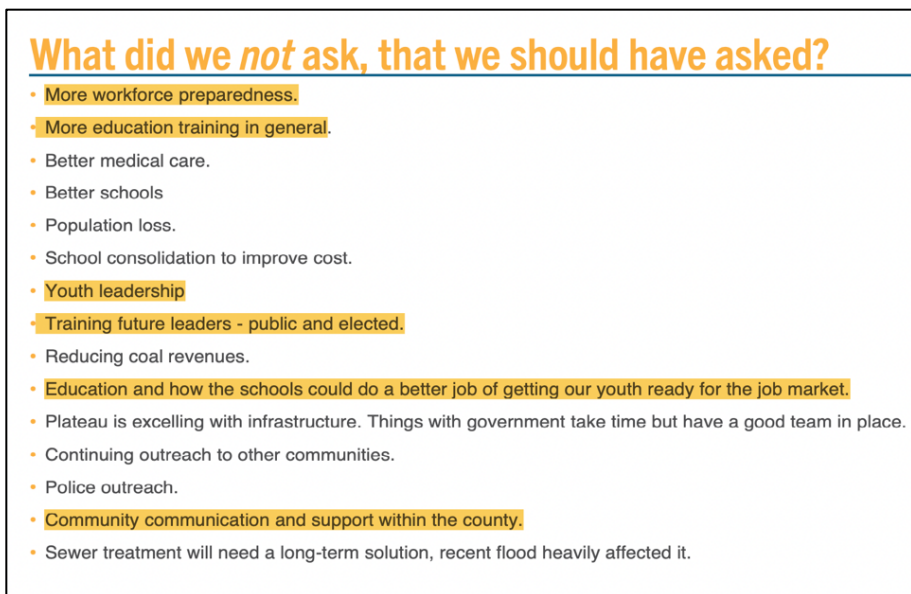


Figure 7: Responses from a September 2021 survey of small business owners in the region. 20 percent of respondents were from Dickenson County. The survey focused on businesses' perceptions of their local government's response to the pandemic, but also included questions about locals' vision for the future of the region. Printed from the CPPDC's Roadmap to Economic Resilience slide deck (Cumberland Plateau Planning District Commission's Roadmap to Economic Resilience, 2021).

numbers with government data. At the end of the year, the research team found that, on average, having a formal business plan did not differentiate a rural start-up's performance.

These findings are bolstered by a survey by Guerrero et al. (2012) of 2142 service-industry firms. His team found that the quality of a business plan did not have a significant impact on a business's financial or organizational viability. The researchers controlled for education, training, experience, intrinsic motivation, firm size, and start-up capital, and still found a negligible effect. While this study was conducted in metropolitan Spain and has severe limitations in terms of extrapolation, the findings' overlap with Eschker's 2017 study indicate that the results could be consistent in the United States (Eschker et al., 2017; Guerrero et al., 2012).

Researchers' studies of incubators and business plans sharply contrast the picture of incubators painted by many business professionals. However, surveys are not entirely reliable indicators of causal relationships. Furthermore, incubator impact—while generally negligible—can still be highly variable depending on how closely programs adhere to best practices, which are often financially and administratively challenging to enact (Harper-Anderson, 2011). Top-performing programs often have a large and diverse advisory board with a sizeable budget. These programs also offer dozens of business assistance services from legal support to marketing expertise. The larger the budget, the better incubators seem to perform, making their success unlikely in Dickenson County. Similarly, incubators generally work best for startups that can be scaled up on a state, national, or international level, like technology startups and startups hoping to expand product sales to major retailers (Harper-Anderson, 2011; *What Are The Types Of Businesses That Can Benefit From Using A Business Incubator Accelerator*, n.d.). Dickenson County, however, wants to establish a strong small business and service industry scene. These kinds of businesses are local by nature and not designed to be dramatically scaled, making them incompatible with the goals of incubators.

Mentorship

Mentorship programs come in many forms and can offer budding entrepreneurs the professional, technical, and personal support needed to build longstanding businesses (Fortunato, 2014; Galvão et al., 2020; Kyrgidou & Petridou, 2013; Shah et al., 2016; Solenski, 2019; St-Jean, 2012). Like incubators, mentorship-based programs are most successful when they are customized to fit the needs of the community (Shah et al., 2016).

A literature review by Shah et al. (2016) about the effects of mentoring on entrepreneurs' business performance reveals that mentoring is associated with increased job satisfaction and higher levels of productivity and performance. In addition to its positive association with material outcomes for mentees' businesses like revenue and employment growth, the researchers found that, on average, mentoring improves skills, confidence, communication, and intrinsic motivation (Shah et al., 2016; UPS Store, 2013).

The findings of this literature review align with the results of a randomized controlled trial (RCT) by Solenski (2019) out of Medellín, Colombia. The 6-month RCT randomly assigned 52 female micro-entrepreneurs to either receive mentorship (18) or no intervention (34). The researcher placed mentees into groups of three to five based on business type and geographic nearness to a mentor. Financially incentivized to attend group-mentor meetings and complete surveys, mentees were instructed to meet with their assigned group once a week for the first five weeks and then once a month for the rest of the six months. At the end of the six

months and again a year later, mentees completed a survey focusing on female empowerment (self-efficacy, confidence, goals). The researcher's regression analysis found that mentoring had a statistically significant positive effect on self-reported empowerment and confidence, but the impacts declined and were no longer significant after six months (Solenski, 2019).

These findings suggest that mentoring can be a powerful tool to empower inexperienced female entrepreneurs, but Solenski believes that higher-frequency, longer-lasting engagement with mentors may be necessary to maintain positive effects (Solenski, 2019). While the RCT had a small sample and did not focus on material outcomes, its findings nevertheless highlight the motivating power of mentoring among underrepresented groups. Importantly, mentorship's positive effect on female entrepreneurs' confidence remains consistent even when the women live in rural communities and mentoring is carried out electronically (Kyrgidou & Petridou, 2013).

Moreover, mentorship appears to work particularly well as an entrepreneurial intervention in rural communities, though research within rural America is limited. A case study of a community-centered program in rural northern Portugal by Galvão et al. (2020) explored the specific benefits of mentorship networks in rural communities. Like rural areas in the United States, rural areas in Portugal experience higher levels of poverty, lower levels of economic activity, and greater infrastructural challenges than urban regions. The researchers pulled together higher education institutions, business associations, and local development groups to create an entrepreneurial network in the rural region. Together, this network offered entrepreneurs mentorship and guidance from within their community. The research team concluded that mentoring led to a statistically significant increase in mentees' self-esteem, interest in entrepreneurship and entrepreneurial knowledge, and ability to recognize business opportunities (Galvão et al., 2020). Increases in confidence and entrepreneurial skills have been associated with increases in business establishment rates in other studies (Marshall et al., 2020; Okocha et al., 2019; Townsend et al., 2008; Maczulskij & Viinikainen, 2023).

As in the Portuguese study, Fortunato's literature review (2014) recommends leaning into rural areas' community-oriented nature. By creating a local mentorship program that emphasizes community collaboration, counties like Dickenson can maximize mentorship's positive effects. This suggestion is backed by a Canadian survey by St-Jean et al. (2012), which found that high levels of perceived trust and similarity between mentors and mentees are associated with higher-quality and longer-lasting mentoring relationships. In the case of Dickenson County, this finding would suggest that pulling mentors from within the region or county would increase program effectiveness.

[Mentorship Through Internship Programs](#)

As Dickenson County develops strategies to improve the long-term trajectory of its small businesses, it must engage its young, educated residents. The out-migration of this group is a major issue in Dickenson County and one factor behind the declining rate of new businesses (US Census Bureau, 2022; Bowen et al., 2020; Surrat, personal communication, October 2023; Wampler & Dillon, personal communication, October 2023). The factors that contribute to rural brain drain—namely financial and social needs—are the same factors preventing young people from pursuing entrepreneurship as a career choice (Munawar et al., 2020). Evidence suggests that encouraging young people to engage in the local entrepreneurial ecosystem through mentorship-based

internships can counteract brain drain and improve small business dynamism in the long run (Lahm & Heriot, 2013; Bowen et al., 2020).

Like other mentorship programs, mentorship-based internship programs are associated with statistically significant increases in self-confidence and intrinsic motivation among mentees (Lahm & Heriot, 2013; Shittu, 2017; DuBois et al., 2008; Varghese, 2012). Furthermore, interns with mentors who prioritize their career growth report learning more than interns with mentors who simply encourage them (β Std.=0.44) (St-Jean et al., 2012). Research also shows that the longer the relationship and the greater the emotional closeness between mentor and mentee, the greater the likelihood of the mentee expressing interest in starting a local business (Shittu, 2017; St-Jean et al., 2012). Mentorship-based internship programs help young people engage with their communities, strengthen their confidence and intrinsic motivation, and give them entrepreneur role models. Having a high level of confidence and an (official or unofficial) mentor who is an entrepreneur are consistently regarded by researchers as two of the greatest factors behind an individual's decision to pursue entrepreneurship and their likelihood of success (C. Eesley & Wang, 2017; Rotefoss & Kolvereid, 2005; Maczulskij & Viinikainen, 2023; Townsend et al., 2008).

Business Development Workshops

Business development workshops are a popular and effective mechanism to drive business creation and produce additional benefits for existing businesses (Galvão et al., 2019; Schulman, 2018; Sciglimpagalia & Toole, 2008). These workshops tend to occur regularly for a few hours each session and teach aspiring and current entrepreneurs skills that they can apply to their businesses.

Though research on their utilization in rural communities is limited, existing evidence is compelling. In one study, researchers in rural Portugal held 11 four-hour entrepreneurial education workshops over two months (44 hours) (Galvão et al., 2019). Of the 149 aspiring entrepreneurs who completed all the workshops, 91 (61 percent) went on to start businesses, with most startups remaining in their rural communities.

In a survey of attendees of a three-part workshop series in South Carolina, researcher Mark Pruett (2012) found that more than two-thirds of workshop participants found them helpful in developing business plans or growing their existing businesses. Furthermore, active business owners reported significant economic investment and job creation following the workshops, suggesting a potential positive (but not quantified) effect on regional economic development and employment. Business workshops are also associated with increases in individuals' sense of self-efficacy, confidence, and entrepreneurial intentions, with roughly half of attendees reporting an increase in confidence about their ability to start a business (Pruett, 2012; Schulman, 2018; Sciglimpagalia & Toole, 2008).

One key part of modern business development workshops is instruction about how small businesses can leverage online platforms and tools. Mastering social media, website design, and e-commerce can be just as crucial for 21st-century entrepreneurs as understanding the ins and outs of financing, accounting, and cost management. According to a 2023 report from the U.S. Chamber of Commerce, 95 percent of small businesses use at least one online platform, and 4 out of 5 businesses that are highly integrated into the online space boast increased sales, employment, and profits (*Empowering Small Business*, 2023). The report offers evidence that the more technology platforms a small business utilizes, the better it performs. For instance, 80 percent of small businesses using six or more platforms reported increases in sales between 2021 and 2022, 12

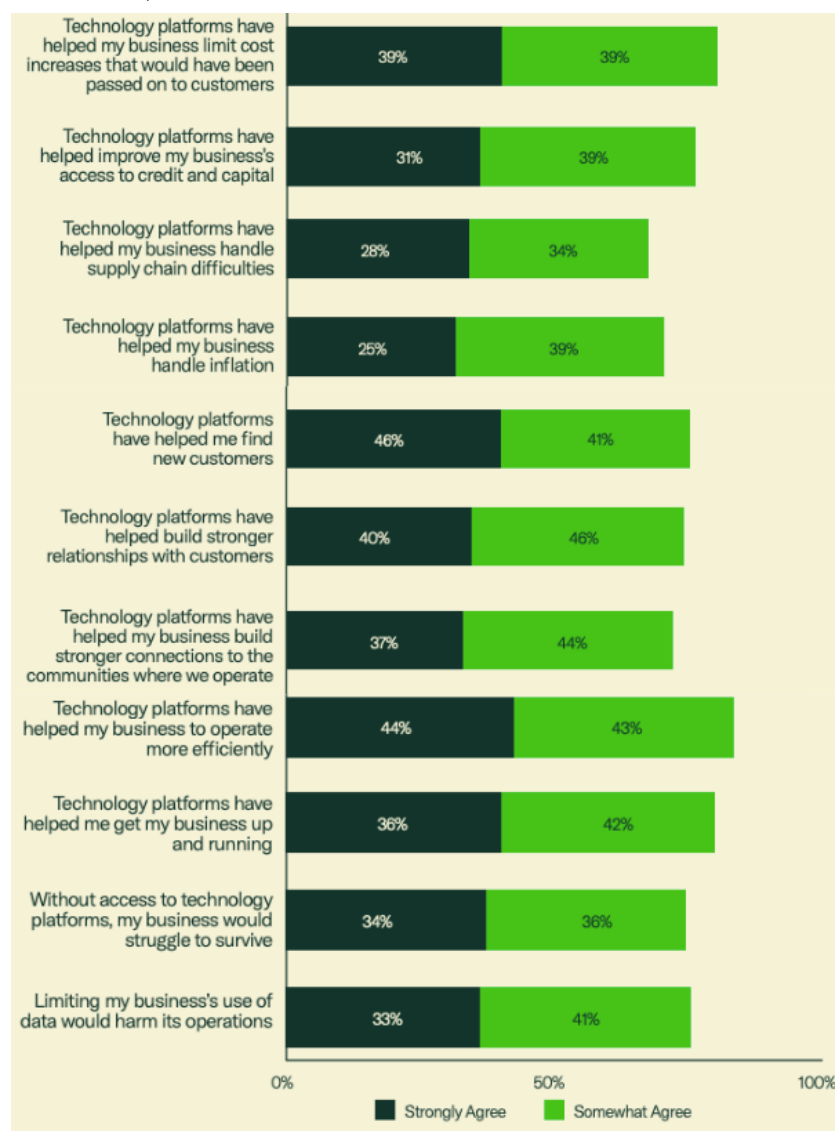
percentage points higher than the share of businesses using between zero and one platform. Overall, entrepreneurs who master and leverage technology are far better off in terms of business growth, operational efficiency, and connecting with customers.

Digital literacy is a crucial business skill in today's marketplace, and rural small businesses are falling behind. Rural entrepreneurs often struggle to utilize online platforms due to limited broadband access and because they tend to be older (Eschker et al., 2017; Richmond et al., 2017). According to an analysis of data from the North Carolina state government by Richmond et al. (2017), nearly half of all rural small businesses in Appalachian North Carolina do not have a website. Furthermore, only 2.5 percent of businesses in Appalachian North Carolina use LinkedIn or Instagram (Richmond et al., 2017). These statistics are likely very similar to the reality in Southwest Virginia.

Marketing assistance instruction during workshops can teach small business owners how to leverage ongoing broadband rollouts to market their goods and services. These programs typically help in developing a marketing strategy, designing an attractive website, establishing a social media presence, and understanding the power of search engine optimization and e-commerce (Richmond et al., 2017).

Following one website development workshop series in Northeast Arkansas, the 69 participating businesses saw a combined increase in sales of nearly \$8 million over four years from the establishment of their websites (Dale, 2007). Small businesses—particularly those in the service industry—report a high level of interest in workshops like the one in Arkansas and describe a positive effect on their businesses afterward (Sciglimpaglia & Toole, 2008; Schulman, 2018; Richmond et al., 2017; Anderson et al., 2017). More specifically, businesses expressed a desire for tailored topics each session and requested workshops about internet use, growing a business, legal and operational compliance, and marketing. Businesses preferred for workshops to take place for

Figure 8: Compilation of survey response visualizations. Printed from the U.S. Chamber of Commerce's 2023 report on technology usage by small businesses (Empowering Small Business, 2023).



several hours to half a day on a weekend and were even willing to pay for an “ideal” workshop (Sciglimpaglia & Toole, 2008).

In an RCT of 852 South African firms that studied the effects of marketing skills and finance skills on business performance, Anderson et al. (2017) concluded that while both skill sets increase profits, marketing skills are significantly more beneficial when entrepreneurs are starting out. Once firms are established, financial skills become more useful for entrepreneurs (S. J. Anderson et al., 2018).

The previously mentioned study by Eschker et al. (2017) supports this finding. Eschker’s research additionally concluded that marketing assistance workshops are one of the best tools to increase rural start-ups’ sales and profits. The study found that businesses that participated in marketing assistance workshops experienced a small, but statistically significant increase in revenue compared to the control group. The research team claims that new businesses should put their resources into marketing rather than business plan development and networking, neither of which are significant independent variables. However, the study did not measure the long-term impact of marketing workshops (Eschker et al., 2017).

Overall, these studies indicate that business development workshops with programming that covers both the traditional and online sides of building and running a business would be useful for Dickenson County’s entrepreneurs.

Information Dissemination and Resource Awareness

Starting a business is challenging for anyone, but especially for people without prior entrepreneurial knowledge. Research indicates that previous experience, a history of business education, and a family history of entrepreneurship are major determinants of whether an individual pursues self-employment through small business creation (C. Eesley & Wang, 2017; Rotefoss & Kolvereid, 2005). Previous experience and personal connections to entrepreneur friends and family offer valuable knowledge about how to navigate available resources and sources of capital and identify gaps in the market. Aspiring entrepreneurs without these skills and assets are left to sift through ever-growing and increasingly unreliable online resources, a process that can be time-consuming, stressful, and risky (S. Little, personal communication, February 21, 2024).

Efforts to share information and resources can help streamline the process of starting and maintaining a business, especially for individuals without entrepreneur relatives or friends and those with lower levels of educational attainment and income (Kosec & Wantchekon, 2020; Okocha et al., 2019). Evidence suggests that information dissemination is most impactful when recipients perceive the information and resources as relevant, reliable, and accessible (Kosec, 2017). Furthermore, pairing helpful information with action items improves perceived usefulness among recipients. More specifically, sharing information about available business, marketing, and capital resources in addition to a business action plan for aspiring entrepreneurs appears to increase interest in entrepreneurship among community members and can even promote growth among existing businesses (Okocha et al., 2019).

Resource Directories

Often delivered online and in print, resource directories are commonly used by local, state, and federal governments to improve information and resource access (Bailey, n.d.; Haber & Looney, 2003; Montague et al., 2021; Wisconsin Small Business Administration, 2015). They consolidate and

disseminate useful information and resources to the community with the hope of addressing knowledge gaps among the population. When it comes to small businesses, these directories tend to contain startup and business development resources for anyone seeking information about technical assistance, business counseling, entrepreneurial education, business planning, and/or sources of capital at the local, regional, state, and federal levels.

Resource directories can lower barriers to entry for aspiring entrepreneurs by consolidating and streamlining useful information (Hogarth et al., 1991). Though no research specifically quantifies resource directory utilization in a small business setting, studies in other fields highlight their usage and perceived usefulness (Haber & Looney, 2003; Montague et al., 2021).

One case study by Montague et al. (2021) described the design and rollout of an online disaster relief resource known as “Resources for Disaster and Disability Directory” for disabled Texans affected by Hurricane Harvey. After sending out roughly 11,000 emails about the resource directory and posting about it on more than 70 local agencies’ Facebook pages, the researchers observed roughly 2,000 users on the site per month in the first six months after its launch. Three years later, the site averaged more than 300 users per month, with 90 percent of surveyed site visitors reporting that the directory was “helpful and contained resources they needed” (Montague et al., 2021).

Another case study by Haber and Looney (2003) details the utilization of a printed health directory by older adults in Galveston, Texas. The researchers distributed the healthcare resource directories to two groups of elderly Texans. One group consisted of low-income, low-education, African Americans, while the other was comprised of college-educated, white people. Researchers called recipients of the directories seven to ten weeks after distribution to track their usage of the resources provided. Among the low-education African American group, 77 percent utilized the directory and 63 percent reported contacting a listed resource. Meanwhile, 44 percent of the high-education white group reported using the directory, with 22 percent contacting a listed resource. These findings suggest that resource directories make the greatest difference among those with more significant barriers to entry and less experience with navigating complex resources, namely people of color and those with low levels of educational attainment and income.

These case studies shed light on how a directory could improve resource utilization and outreach in Dickenson County. Ideally, there would be studies isolating the specific effect of business resource directories on firm growth. However, with no such information available, quantifying a business resource directory’s effect on business dynamism must be informed by the successive effects of information access on entrepreneurs’ confidence and confidence on firm creation (Marshall et al., 2020; Okocha et al., 2019; Townsend et al., 2008).

Information accessibility makes starting a business appear more feasible and helps aspiring and current entrepreneurs discover resources and opportunities (Okocha et al., 2019). Evidence suggests that hopeful entrepreneurs perform their best and are most confident when they have access to three kinds of capital: human, social, and financial (Marshall et al., 2020). Human capital describes knowledge and skills while social capital refers to a robust network of mentors and investors. Financial capital involves access to startup financing resources like grants and loans. When entrepreneurs have access to a wide array of capital, they are more competitive and more likely to grow (Wei-Skillern, 2007).

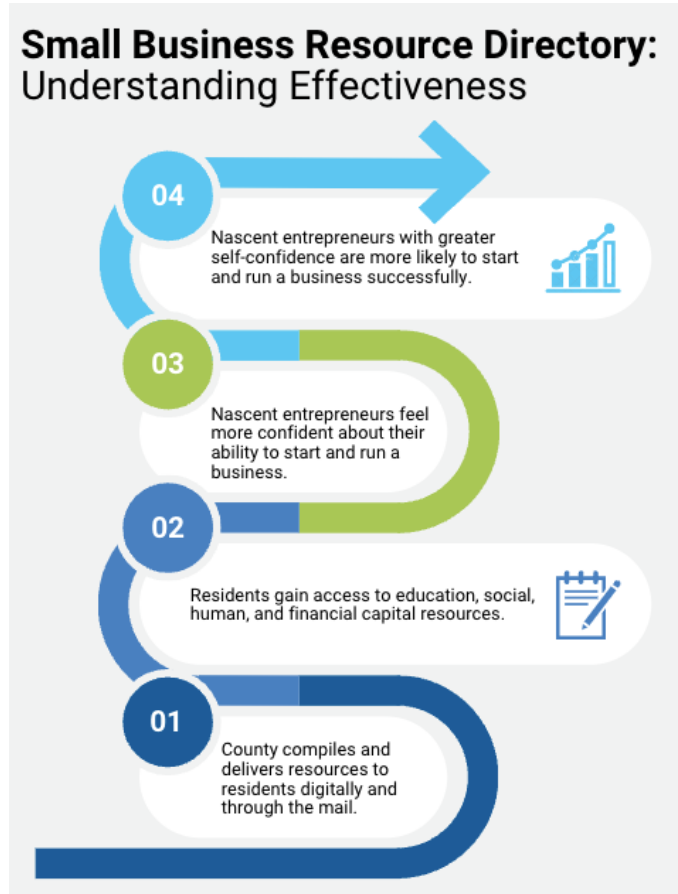
Access to resources not only improves firm performance, but it also increases individuals' confidence that they can succeed as entrepreneurs (Marshall et al., 2020). Motivation and persistence are elevated when entrepreneurs are equipped with information, key indicators of follow through and performance.

Confidence is associated with higher startup rates (Maczulskij & Viinikainen, 2023; Townsend et al., 2008). According to a longitudinal study of 316 “nascent” or aspiring entrepreneurs by Townsend et al. (2008), nascent entrepreneurs' confidence is a robust predictor of their likelihood of starting a business. A one-unit increase in self-reported confidence on a five-point Likert scale was associated with a 26 percent increase in the likelihood of starting a business.

Another study by Maczulskij and Viinikainen (2023) used longitudinal twin study data from the Finnish Department of Health as well as Finnish Longitudinal Employer-Employee Data to track the entrepreneurial activity of tens of thousands of Fins from 1990 to 2009. The researchers found that high self-confidence is associated with increased entrepreneurship rates and greater business performance. For instance, a one-standard-deviation increase in confidence on a five-point scale was associated with a 1.6 percentage point increase (21.62% increase) in an individual's likelihood of becoming an entrepreneur. Further, that same shift was associated with an eight percent decrease in the probability of an entrepreneur closing shop in their first two years (when most businesses fail) as well as an entrepreneurial income that was nearly 20 percent greater than those at the baseline (Maczulskij & Viinikainen, 2023).

By understanding the successive effects of access to information, heightened entrepreneurial confidence, and increased small business birth rates, we can understand the potential impact of a Dickenson County business resource directory on small business dynamism.

Figure 9: Graphic depicting the successive effects of information access on entrepreneurs' confidence and confidence on firm creation.



“Shop Local” Marketing Campaigns

Many business owners and economic development professionals in Dickenson County expressed interest in the county running a “shop local” or “buy local” campaign. Existing research highlights the economic impact of spending a dollar at a local vendor versus at a big

box store (*HdL Companies - Case Study*, 2023; LOCO BC, 2021; Yiftee, 2023). According to the American Business Alliance, nearly half of every dollar spent at a local small business recirculates in the local economy, more than three times the recirculation power of a dollar spent at a chain retailer (14 cents) (*Expert Alert*, 2021; *The Local Multiplier Effect*, 2012).

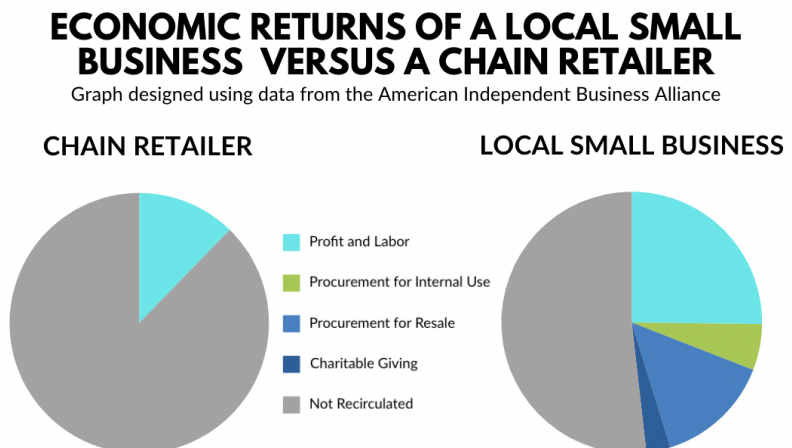
While this effect is sizable, there is very little evidence to suggest that shop local campaigns change consumers’ spending habits or increase the number of dollars recirculating locally. In fact, the few studies on the subject appear to directly contradict each other (Matarazzo et al., 2023; Salehudin, 2016; Stearns, 2017).

One study by Stacey Stearns (2017) surveyed 32 individuals working on buy-local initiatives in urban and suburban America. From their responses, Stearns concluded that these campaigns are effective, but her conclusion is unreliable. Not only did the researcher fail to use a consistent or quantifiable metric to measure impact, but the non-random sample was comprised entirely of people promoting shop local initiatives.

In direct opposition to Stearns’ study, Matarazzo et al. (2023) suggest that shop local initiatives can inadvertently cause consumers to behave in the exact opposite way than intended, especially when consumers are experiencing hardship. Using the COVID-19 pandemic as an exogenous shock, the researchers used a crowdsourcing platform to survey 265 Germans and 268 Italians about their reactions to shop local campaigns run by their governments. After being exposed to the messaging, participants reported an increase in negative feelings toward the initiative and said they were less likely to shop domestically even though they understood the initiative’s objectives and purpose. According to the researchers, these findings are consistent with reactance theory. Reactance theory posits that when an individual perceives that their freedom has been threatened by the advice or encouragement of another person or entity, they feel motivated to defy that advice in order to restore their autonomy. This study, while well-designed, only considers the effect of shop local initiatives during crises. We should not assume that the findings can be replicated in non-pandemic times in the United States.

Finally, a survey of 394 Indonesians exposed to Indonesia’s national shop local initiative found that exposure to the messaging improved locals’ attitudes about local products in every industry but only increased sales in the agricultural and culinary industries (Salehudin, 2016). The initiative did, however, indirectly increase overall consumer ethnocentrism or nationalistic preference for domestic

Figure 10: A dollar spent at a small business goes 3 times further in the local economy than a dollar spent at a chain (The Local Multiplier Effect, 2012).



goods. While his study is compelling, Salehudin confirms the lack of evidence on the subject, writing that his research is “the first study to validate the impact of exposure to a marketing campaign promoting local products” (Salehudin, 2016).

Together, these three studies paint a limited and unreliable picture of shop local campaigns. Thus, it would be unwise to suggest that Dickenson County spend its limited resources on a shop local initiative without more research to substantiate the positive findings.

Literature Limitations

Because of research gaps in Appalachia and rural America as a whole, much of the evidence on policy solutions has been extrapolated from other regions. Generalized applications of interventions within urban and suburban businesses may not capture the reality of the rural entrepreneurial environment. A literature review by Fortunato (2014) suggests that regional and local factors relating to culture, access to capital, geographics, policies, and infrastructure can severely impact outcomes for entrepreneurs. The author asserts that rural entrepreneurial environments cannot be lumped in with those in urban areas and that it is highly unlikely that urban entrepreneurial findings can accurately describe rural startups (Fortunato, 2014).

Notably, randomized controlled trials (RCTs) of business support programs are quite rare. An RCT would involve randomly assigning some firms to receive support and others to receive nothing. That support must be identical to control for other variables. However, because effective business support programs are highly specialized to fit each community and business’s needs, they do not lend themselves well to standardized interventions. While conducting an entrepreneurial RCT is not impossible—as evidenced by the studies mentioned in this literature review—it is unlikely that standardizing treatment would accurately capture the effect of a typically customized intervention (Dalziel, 2018).

ALTERNATIVES

Ultimately, interviews with locals and an evaluation of existing literature produced three promising and evidence-backed policy pathways:

- 1) Establishing a summer internship program between Ridgeview High School and local business owners.
- 2) Hosting monthly business development workshops.
- 3) Developing and disseminating a small business resource directory.

Alternative 1: High School Summer Internship Program With Small Business Mentors

This alternative proposes a 6-week summer internship program that pairs Ridgeview High School business students with small business mentors. Funded by a \$1,300 stipend from the Southwest Virginia Workforce Development Board, students will assist their business mentor three days a week, six hours a day (S. Edwards, personal communication, March 2024). The program aims to build a pipeline of future local entrepreneurs with the education, experience, and skills that have been missing in the community.

Interested local businesses will be paired with junior and senior business students at the end of each academic year for a summer internship. Students receive advice and insight while assisting with tasks like establishing businesses' social media presence and designing their websites (A. Phillips, personal communication, January 2024; R. Surratt, personal communication, October 2023). Because so few Central Appalachian small businesses have websites or social media, students could have a tremendous impact by helping entrepreneurs establish an online presence (Richmond et al., 2017).

Compatibility, access to a vehicle, broadband connectivity, and work schedules will be considered in the internship pairings (Baden & Parkes, 2013; Conroy & Low, 2022; Kyrgidou & Petridou, 2013). While students enrolled in business classes will be strongly encouraged to participate, the internship is not mandatory. Students have different circumstances and may not have the capacity to take on a summer internship. Nevertheless, the part-time summer structure is meant to promote participation and allow for the expansion of Ridgeview's curriculum through experiential learning (Baden & Parkes, 2013). Internship work may take place in person or remotely, depending on the needs of the mentor and mentee (Kyrgidou & Petridou, 2013). In-person interns must arrange their own transportation.

Chris Robinson, head of business curriculum at Ridgeview High School, estimated that 10 to 15 business students would participate during the inaugural year, with a similar number of small businesses predicted to sign on (C. Robinson, personal communication, February 2024). If the program is a success, the county can expect involvement to grow. With an estimated 350 Ridgeview students in 9th through 12th grade participating in business classes in a given school year, the program has plenty of room to expand in future years, especially if businesses continue to opt in.

According to Chris Robinson, "I definitely think we have businesses that would be receptive [to an internship program]" (C. Robinson, personal communication, February 2024). However, if businesses ultimately opt-in at lower rates than students—as there are fewer businesses than students in the county—the school can utilize a selective application process for interns, adding a competitive element to the program that may add prestige and drive interest in future years.

The county must ensure that interns are not treated as free labor, but rather given opportunities for growth and mentorship. Because young people with mentors who prioritize their career growth report learning more than young people with mentors who simply encourage them, the internship advisor (Robinson) will host a mandatory 2-hour orientation for business mentors to outline expectations and set boundaries (St-Jean, 2012). This orientation will take place after business owners sign on as interested but before they are paired with students and fully committed. Robinson will emphasize the business, marketing, management, and technology skills the interns can offer and ask mentors to engage their mentees in real-life issues, not just grunt work.

Alternative 2: Business Development Workshops

This alternative proposes Dickenson County host monthly business development, marketing, and technical assistance workshops for four hours on Saturdays, open and free to all community members (Schulman, 2018; Sciglimpagalia & Toole, 2008). Advertised in the Dickenson Star and through pamphlets placed in businesses, workshops will take place in person at the IDA office in Dickenson County. Workshops will address specific challenges of establishing and running a business and will include free lunches and handouts (S. J. Anderson et al., 2018; Kosec &

Wantchekon, 2020; Pruett, 2012; Richmond et al., 2017; Schulman, 2018; Sciglimpagalia & Toole, 2008).

The monthly workshops will cycle through twelve topics, which will repeat annually with updates (*Online Small Business Seminars | Charlottesville, VA*, 2024). These topics are subject to change in response to locals' preferences but loosely feature two workshops on the basics of starting a business, business plan development, and navigating legal and financial business structures in addition to workshops on website design, building and leveraging a social media presence, brand development, traditional and online marketing, understanding customers and the market, determining pricing and managing costs, recordkeeping and basic accounting, financing, e-commerce, and leadership. Interviews with current and aspiring business owners in the county indicate a high level of interest (J. Johnson, personal communication, December 2023; S. Little, personal communication, February 21, 2024; A. Phillips, personal communication, January 2024). Each workshop will feature instructors from regional organizations, including People Inc., Opportunity SWVA, Kiva, Virginia Community Capital, the Small Business Development Centers, the Cumberland Plateau Planning District Commission, and successful businesses within and around the county.

Alternative 3: Local Entrepreneurial Resource Directory

This alternative proposes that the Dickenson County IDA develop a clear and thorough directory and business guide that consolidates startup resources and business development services for anyone seeking information about technical assistance, business counseling, entrepreneurial education, business planning resources, or sources of capital at the local, regional, state, and federal levels. The resource directory will also include a step-by-step worksheet guide to starting a business that lays out essential parts of the process (Kosec & Wantchekon, 2020; Okocha et al., 2019).

The guide will include contact information for each organization working on small business development in Southwest Virginia. The complete resource directory will be designed by a member of the IDA office (ideally the client's incoming employee) and double-checked by Dana Cronkhite and the directors of the region's two Small Business Development Centers (SBDC), Becki O'Quinn and Margie Douglass. Once approved, it will be uploaded to the Dickenson County website as well as sent to county residents by email and mail (Kosec & Wantchekon, 2020). Each year, the IDA office will update the resource directory and repeat the process.

The directory will be sent to every household in the county during its first year with an option to opt out of receiving information in the future. This opt-out strategy proactively ensures that everyone has access. While opt-in systems prioritize user autonomy by placing the burden on the individual to sign up, they also tend to lead to missed opportunities (Marchewka et al., 2003; Porter, 2023). Some residents might not even realize they need the resources in the directory until they receive it. Moreover, an opt-in system might cause those who had not previously considered starting a business to opt out despite future potential. More than 40 percent of Americans will consider starting a business in their lifetime, so the county cannot afford to overlook any residents (*Nearly Half of Americans Have Considered Starting a Business — Here's What's Stopping Them*, 2023). Utilizing an opt-in system improves access, eliminates the burden on users, and plants the seeds for entrepreneurship in locals' minds (Marchewka et al., 2003; Porter, 2023).

According to Stephanie Little—a disabled resident of Dickenson County currently working to open her own quilt shop and sewing lesson business—an accessible resource directory with a step-by-step guide to navigating the entrepreneurial process is “one of the most beneficial things the county could do for [aspiring business owners]” (Little, personal communication, February 2024). Little shared that she encountered countless scam websites trying to convince unaware entrepreneurs to pay for resources and licensing that are free.

Further, SBDC Directors Douglass and O’Quinn attested that Southwest Virginia has robust small business resources for a rural region, but that they are severely under-advertised and under-utilized, especially by Dickenson County (M. Douglass & B. O’Quinn, personal communication, December 6, 2023). A local resource directory—uploaded to the Dickenson County website and distributed to locals by email and mail—would centralize information and promote transparency and accessibility (M. Douglass & B. O’Quinn, personal communication, December 6, 2023; Kosec & Wantchekon, 2020; S. Little, personal communication, February 21, 2024; Okocha et al., 2019).

ASSESSMENT OF ALTERNATIVES

This section measures each alternative against four equally weighted criteria over 20 years: cost, effectiveness, administrative feasibility, and equity.

Cost

The cost criterion evaluates the financial burden of implementing and sustaining each alternative over 20 years. Future costs are estimated using the updated federal discount rate of 2 percent (*Valuing the Future*, 2024).

Effectiveness

The effectiveness criterion assesses each alternative’s ability to address the problem statement and improve the status quo trajectory of the small business ecosystem in Dickenson County. Essentially, effectiveness evaluates increases in the net number of local small businesses. Ideally, effectiveness would measure new establishment births as well as increases in existing businesses’ longevity and revenue. While many of these alternatives would likely produce significant positive effects for existing businesses, these effects cannot be quantified due to a lack of literature on the subject. Thus, while the analysis discusses how Dickenson County might expect each alternative to benefit established businesses, only new establishment births are included in the effectiveness score.

Administrative Feasibility

Administrative feasibility describes the likelihood that Dickenson County can effectively administer and sustain each alternative. It considers the county’s bandwidth and the number of organizations needed to execute the alternative. Moreover, the client shared that the county plans to hire a new Industrial Development Authority employee (D. Cronkhite, personal communication, October 2023). Assessments of administrative feasibility are informed by the assumption that the hiring process will move forward. An alternative that scores highly on administrative feasibility demands little time and very few administrators to execute in addition to requiring little-to-no coordination with other stakeholders. On the other hand, an alternative that scores lower requires resources and personnel that the client does not already possess and involves a high level of stakeholder collaboration.

Equity

The equity criterion mainly focuses on Dickenson County residents' ability to access and participate in each alternative without needing to make tradeoffs or have access to additional resources. This criterion also considers whether each alternative engages populations historically excluded from entrepreneurship, namely low-income individuals, women, and people of color. An alternative that scores highly on equity is accessible to all with very minimal resource or time burden falling on residents. On the other hand, an alternative that scores lower on equity is accessible to fewer people, with certain demographic groups excluded more than others due to resource restraints, time commitments, social stigma, or other factors.

Tables outlining the assumptions and calculations involved in assessing each alternative for cost and effectiveness can be found in the appendix.

Alternative 1: High School Summer Internship Program With Small Business Mentors

20-Year Cost: \$767,000

Cost considerations for the internship program estimate participation levels, stipend amount, administrative costs, and the potential for the program to grow each year (*Valuing the Future*, 2024). Chris Robinson's participation estimate of 10 to 15 students in the inaugural year was averaged to 12 students, with an assumed increase in participation by two students and two businesses each year (C. Robinson, personal communication, February 2024). I chose not to cap this number within the 20-year timespan because a 52-person program in year 2044 is entirely possible given the total number of students and businesses.

Stipends would come from the Southwest Virginia Workforce Development Board's Work Experience program funding (S. Edwards, personal communication, March 2024). This organization already has funding for students to gain work experience locally and could feasibly expand to include business-related internships. The stipend amount of \$1,300 in 2024 dollars is based on Virginia's minimum wage (\$12) and the time commitment of 18 hours per week for six weeks.

Robinson expressed interest in working as the program advisor, as he already advises students on their academic and non-academic business work and has close relationships with local business owners. According to online estimates, Robinson's annual salary as a teacher at Ridgeview High School is roughly \$50,000, meaning that six weeks of his advising time is worth \$8,300 in 2024 dollars (Salary.com, n.d.).

Altogether, the cost of running the program in year one is nearly \$24,000, with increasing costs in subsequent years due to increasing participation.

Given uncertainty surrounding the program's participation estimates, a sensitivity analysis of participation rates revealed a range of potential costs. If only five students participate in the first year, with an increase of two each subsequent year, the 20-year program will cost roughly \$618,000. On the other end, if the program starts with 20 students, it will ultimately cost the county \$937,000.

20-Year Effectiveness: 33 net new businesses

In 20 years, this program is estimated to produce 33 new small business ventures in Dickenson County, with a cost-effectiveness ratio of \$23,000 per net new business.

Most literature on entrepreneurial internships focuses on shifts in students' entrepreneurial orientation, highlighting improvements in their confidence and interest in starting a business. Few studies have observed internships' impact on actual startup rates.

According to one study of Stanford undergraduate students who participated in a 10-week entrepreneurial education program with assigned entrepreneur mentors, 18.4 percent went on to found startups within two years of graduation, significantly higher than the four percent of non-program Stanford students who founded startups in the same period (C. Eesley & Wang, 2017). This study highlights how mentorship can increase the likelihood of young people pursuing entrepreneurship earlier in their careers; however, researchers did not track changes in long-term start-up rates.

Like the Stanford program, this alternative adds a mentoring element to existing entrepreneurial education at Ridgeview High School. However, the county should not assume that they will have the same outcome rate as the Stanford students. If Ridgeview students pursue entrepreneurship in their twenties at a quarter of the rate of the Stanford students, then participating in the internship program is associated with a 5 percent increase in the likelihood of starting a business in their early twenties. For simplification purposes and as a comparison point to the Stanford study, I have assumed that these outcomes emerge six years after program completion (ages 23-24). These rates indicate that the program will produce 16 businesses from participants in their early twenties, roughly one to two businesses per year.

The Stanford researchers did not track startup rates among participants once they were three years post-graduation. It is reasonable to assume, however, that program participants went on to start businesses in their mid-late twenties and early thirties at higher rates than their non-program participants. Consequently, I decided to factor in delayed entrepreneurship into my calculations by incorporating a 5% likelihood of starting a business among participants aged 25 and older during the 20-year measurement period. Thus, if 350 of the program's participants will be at least 25 years old by the end of the 20-year measurement period, they collectively may open an additional 17 businesses.

Furthermore, evidence suggests that similar work-study entrepreneurship programs affect the quality of young people's entrepreneurial ventures (C. E. Eesley & Lee, 2021). When paired with a mentor in the field, entrepreneurial education students are more likely to realistically estimate their own entrepreneurial abilities, helping them build successful and sustainable businesses (C. E. Eesley & Lee, 2021; C. Eesley & Wang, 2017). Program participants who do go on to found businesses are more likely to start at a younger age and tend to have more profitable and longer-lasting ventures. Of the roughly one-third who started businesses after the Stanford program, 73 percent of participants who received mentoring on top of an entrepreneurial education were still operating their firms after four years, with their businesses surviving 1.5 times longer than those who only received an entrepreneurial education (C. Eesley & Wang, 2017). These findings have positive implications for the success of Ridgeview students' future establishments.

Though the impact of this program on existing businesses cannot be quantified, if students succeed in establishing online platforms for Dickenson County's small businesses, the economic impact of increased e-commerce and tourism could be particularly noteworthy for the region.

Administrative Feasibility: Medium

This program will involve several moving parts, including coordination between the IDA, business owners, Ridgeview High School, and students. However, Ridgeview High School teacher Chris Robinson expressed interest in organizing the students and finding business mentors (C. Robinson, personal communication, February 2024). Moreover, the IDA's plan to onboard another employee would significantly increase their administrative capabilities to organize the program, match mentors and mentees, and secure funding (D. Cronkhite, personal communication, October 2023).

Equity: Medium

Because this program operates during the summer and requires interns to arrange their own transportation, it may be less accessible to students who are low-income, who do not have access to a car, and/or who have other summer commitments like full-time jobs (C. Robinson, personal communication, February 2024). Of course, business owners have the option to allow their interns to work remotely, but given the technological limitations of most local entrepreneurs, the county should not anticipate this to be a common occurrence.

While participating in this program is less feasible for students with fewer resources, the program has positive equity implications for participating students whose identities have been historically excluded from entrepreneurship. Mentorship-based programs are particularly beneficial for female mentees, though the positive effect appears to disappear within six months of the program ending (DuBois et al., 2011; Solenski, 2019; Varghese et al., 2012). Importantly, studies show that women in rural communities experience significant confidence boosts from mentorship, even when it is carried out electronically (Kyrgidou & Petridou, 2013; Conroy & Low, 2021). While it ultimately fades, increased confidence could still carry implications for young women who are making big life decisions like going to college, pursuing self-employment, and/or staying in the county.

Alternative 2: Business Development Workshops

20-Year Cost: \$618,000

To calculate the cost of running workshops over 20 years, I combined and discounted the cost of instructors' wages, administrative costs, the opportunity cost of participants' time, catering, and printing worksheets. I used the average salary for a full-time worker in Dickenson County to inform my hourly wage estimate (\$20). The workshops will take place at the IDA office in Dickenson County, so the venue is free. Workshop curriculum is also available online for free if administrators need guidance.

20-Year Effectiveness: 109 net new businesses

Over 20 years, this program is expected to contribute to the creation of more than 100 new businesses, roughly five businesses per year. The cost-effectiveness ratio of this alternative estimates that for every \$6,000 the county spends, one new business will emerge.

Given that Dickenson County is a rural community with relatively similar economic challenges to the rural Portuguese community in the workshop study by Galvão et al. (2019), we can infer that a workshop series might produce similar results in both locations. Roughly 61 percent of the 149 workshop participants in the study ultimately started businesses, with most establishments opening within the community (Galvão et al., 2019). Thus, Dickenson County could reasonably assume that a similar share of workshop attendees (who are not already business owners) will go on to start businesses, with the majority remaining in the county.

Interviews informed my assumptions about the level of interest in the workshop series (S. Little, personal communication, February 21, 2024; A. Phillips, personal communication, January 2024; C. Robinson, personal communication, February 2024). Though none of my interviewees provided a participation estimate, I used their insight to assume that participation would be double that of the internship program (12 businesses). For one, participating in this alternative is far less of a time commitment. Furthermore, while only established businesses were invited to become mentors in the first alternative, the workshop series is open to all residents regardless of whether they have a business. Based on these assumptions, I estimate that workshop attendance will average 24 people.

Participation does have the potential to decrease or increase depending on several factors. On one hand, if the workshops are poorly run and deemed unhelpful by participants, the county can expect participation to decline. On the other hand, if early workshops see strong attendance and positive feedback, word of mouth could produce a beneficial snowball effect for attendance. Ultimately, I chose to use a constant participation rate of 24 to meet halfway between the two scenarios.

To calculate the effect of workshops on new firm creation, I assume that half of all workshop attendees are aspiring entrepreneurs and 61 percent of that subgroup will ultimately start a business, with 75 percent remaining in Dickenson County. Thus, a twelve-part workshop series (ten parts for existing business owners) that averages 24 participants should produce an estimated six new businesses each year, starting in the second year.

This alternative also has significant potential to benefit existing businesses in Dickenson County, particularly through teaching online skills like e-commerce and social media marketing. As previously discussed, Dickenson County's small businesses lag behind much of the county when it comes to adopting and benefitting from online platforms. Several studies demonstrate that workshops can lead to increased sales, profit, operational efficiency, and employment among already established businesses, especially when brick-and-mortar firms integrate online platforms and e-commerce (Dale, 2007; Pruett, 2012; Schulman, 2018; Sciglimpaglia & Toole, 2008).

Administrative Feasibility: Medium

This program will involve coordination between the IDA, aspiring and current business owners, the Small Business Development Centers, the Cumberland Plateau Planning District Commission, and NGOs like People Inc. and Opportunity SWVA. These organizations already communicate somewhat regularly and would likely engage in the program, but scheduling instructors for the monthly workshops will require increased communication and may prove challenging given that they occur over the weekend (D. Cronkhite, personal communication, October 2023; M. Douglass & B. O'Quinn, personal communication, December 6, 2023). Furthermore, the layout of the region means that instructors may have to travel upwards of one hour each way to teach the workshops.

Equity: High

Because the workshops take place for four hours one Saturday a month, they are accessible to practically all county residents. They are a minimal time commitment, even for those who work most weekends. Furthermore, most Dickenson County adults have a car and existing literature suggests that workshop attendance is highest on weekends (Sciglimpaglia & Toole, 2008; Schulman, 2018).

Alternative 3: Local Entrepreneurial Resource Directory

Cost: \$132,000

There are 5,543 households in Dickenson County, meaning that—if the printed business resource directory is 10 double-sided pages—the county will have to print and mail 55,430 pieces of paper (US Census Bureau, 2022; Wisconsin Small Business Administration, 2015). According to the USPS cost calculator for direct mail campaigns, this process would involve roughly \$3,900 worth of printing, \$2,700 worth of stamps and envelopes, and \$600 worth of a graphic designer’s time (“Calculate the Cost of Direct Mail Campaigns,” n.d.). Furthermore, the directory will take an estimated 40 hours for a county employee to compile in year one, with roughly 15 hours of maintenance and updates each subsequent year.

Effectiveness: 11 net new businesses

This alternative is predicted to produce 11 net new businesses over 20 years, with a cost-effectiveness ratio of \$11,500 per new business.

Effectiveness was assessed using a combination of case study evidence from other fields and the estimated successive effects of information access on confidence and confidence on firm establishment rates (Haber & Looney, 2003; Maczulskij & Viinikainen, 2023; Marshall et al., 2020; Montague et al., 2021; Okocha et al., 2019; Townsend et al., 2008; Wei-Skillern, 2007).

After sending out 11,000 emails about their Hurricane Harvey relief resource directory for disabled Texans, Montague et al. (2021) saw an initial engagement rate of roughly 2,000 users per month in the first six months after its launch. After three years, engagement declined to roughly 300 users per month, with 90 percent of surveyed site visitors reporting that the information and resources were helpful. In Haber and Looney’s previously mentioned healthcare directory case study (2003), an average of 43 percent of elderly recipients ultimately utilized a listed resource, deeming the directory relevant and/or helpful. Importantly, though all recipients could have benefited from the resource, less than half used it.

In the case of Dickenson County, the resource directory will be sent to every household, including households that will not benefit from the resources. An estimated 47 percent of county residents might find the resource relevant to them. According to national averages, 42 percent of county residents have considered entrepreneurship (*Nearly Half of Americans Have Considered Starting a Business — Here’s What’s Stopping Them*, 2023). Moreover, five percent of residents are already self-employed (*Dickenson County, Virginia - Census Bureau Profile*, 2024). Because the combined 47 percent represents relevant recipients, I assume that 43 percent of this subgroup will ultimately utilize the resource directory in its first year. This means that roughly 20 percent of all county residents, or roughly 2,800 people, will utilize some resource listed in the resource directory in year one. Furthermore, according to trends in the disability resource directory case, utilization is expected to decline by 85 percent between years one and two, with years two through twenty remaining constant as long as resources are continuously updated (Montague et al., 2021). This indicates that roughly three percent of the county, or about 420 people, will use the resource directory each year.

However, to determine the number of net new establishments produced by this resource, it is crucial to consider the relationship between information access and entrepreneurs’ confidence as well as the relationship between confidence and establishment birth rates (Marshall et al., 2020; Okocha et al., 2019; Townsend et al., 2008).

Information accessibility boosts aspiring entrepreneurs' confidence and makes starting a business appear more feasible (Marshall et al., 2020; Okocha et al., 2019). When entrepreneurs have access to resources and information, they are more competitive and more likely to succeed in growing a business (Wei-Skillern, 2007). When entrepreneurs are equipped with information, motivation and persistence—key indicators of follow-through and performance—are elevated (Marshall et al., 2020).

That elevated confidence leads to higher startup rates (Maczulskij & Viinikainen, 2023; Townsend et al., 2008). A one-unit increase in self-reported confidence on a five-point Likert scale is associated with a 24 percent increase in the likelihood of starting a business (Maczulskij & Viinikainen, 2023; Townsend et al., 2008). Further, that same shift was associated with an eight percent decrease in the probability of an entrepreneur closing shop in their first two years (when most businesses fail).

To describe the potential effect of a resource directory on Dickenson County, we must assume that access to information increases confidence by one standard deviation on a five-point scale, and that a one-standard-deviation increase in confidence boosts startups by roughly 24 percent. A 24 percent increase of the current annual startup rate in Dickenson County (13 businesses) would add three businesses in year one and roughly one business every two years in the years following (U.S. Small Business Administration, 2022). After 20 years, the business directory will have added an estimated 11 businesses to the county.

The benefits of information access and elevated confidence extend to owners of existing businesses. Confident business owners are more likely to have high-performing businesses and take home more money at the end of the day (Maczulskij & Viinikainen, 2023; Townsend et al., 2008). All entrepreneurs in Dickenson County stand to benefit from improved communication about resources and information.

Administrative Feasibility: High

This alternative requires one to two county officials to collect, consolidate, and disseminate information from various local, regional, state, and federal websites once a year. Initial development of the resource will take more time than updates in subsequent years, but the project is not expected to be a significant time commitment in the grand scheme of the IDA's duties.

Equity: High

With 33 percent of rural Americans reporting that they do not have a single internet-compatible device in the home, paper is part of the reality for Dickenson County (*The State of the Urban/Rural Digital Divide* | *National Telecommunications and Information Administration*, 2016; Vogels, 2021). The dual-delivery model featured in this alternative means that anyone in the county can access the resource and utilize it at any time, regardless of age, digital literacy, or broadband access (Kosec & Wantchekon, 2020). This is particularly important for those who may not otherwise have access to entrepreneurial knowledge—like an entrepreneur in the family—or who have less experience navigating government resources. This alternative also requires no travel, time, or money from recipients.

OUTCOMES MATRIX

As per my client's request, each criterion has been weighted equally with outcomes measured over a 20-year period.

OUTCOMES MATRIX					
	COST	EFFECTIVENESS	COST-EFFECTIVENESS RATIO	ADMINISTRATIVE FEASIBILITY 1 (low) - 3 (high)	EQUITY 1 (low) - 3 (high)
INTERNSHIP PROGRAM	\$767,000	33 net new businesses (1-2 per year)	\$23,000 per net new business	Medium (2)	Medium (2)
BUSINESS DEVELOPMENT WORKSHOPS	\$618,000	103 net new businesses (5 per year)	\$7,000 per net new business	Medium (2)	High (3)
BUSINESS RESOURCE DIRECTORY	\$132,000	11 net new businesses (1 every other year w/ 3 in Y1)	\$11,500 per net new business	High (3)	High (3)

Tradeoffs and Finding a Middle Ground

Alternative 2, Business Development Workshops, has the strongest cost-effectiveness ratio. Though it has a moderate 20-year cost of \$618,000, its predicted catalyzation of 109 new businesses is three times greater than the estimated impact of the internship program and ten times that of the resource directory. This alternative's substantial effectiveness and high level of accessibility offset its moderate cost. The workshop programming also fills an important middle ground between the affordable and immediate but short-lived benefits of the business resource directory and the expensive, long-term investment that is the internship program. Dickenson County cannot afford to wait decades for an improvement in its business dynamism, but the county also cannot afford to waste resources on band-aid solutions.

RECOMMENDATION

After measuring each alternative for cost, effectiveness, administrative feasibility, and equity, **business development workshops appear to be the best pathway forward** for the Dickenson County IDA. This alternative is the most cost-effective mechanism to improve small business dynamism in the county.

Further, given the high level of demand for a resource directory in addition to a workshop series, **the county should also consider allocating resources to developing the website portion of Alternative #3.** This adapted version of the resource directory would save money and time while still offering useful and in-demand information. Likewise, a workshop series paired with a consolidated online resource could be transformative for nascent and active entrepreneurs in terms of information access and improved self-confidence.

IMPLEMENTATION

Overview

Hosting a series of monthly business development workshops has promising potential for small business dynamism in Dickenson County if implemented properly. This implementation plan outlines key considerations about stakeholder collaboration, describes the steps necessary to execute the program (Figure 4), and considers potential pitfalls.

Stakeholders and Roles

Dickenson County Board of Supervisors

The Board of Supervisors will be necessary to approve the IDA's budget allocation for the workshop series and to provide annual oversight that the program is worth the county's time and resources. Gaining the support of local supervisors will help spread the word about the program and build public engagement.

New IDA employee and/or Dana Cronkhite

IDA employees will serve as the point people and program managers for the workshop series. Their role will involve coordinating partnerships, handling logistics, leading outreach efforts, and analyzing feedback from attendees.

Mountain Empire CC Small Business Development Center and Southwest VA CC Small Business Development Center

The directors of the SBDCs at the region's two community colleges, Becki O'Quinn and Margie Douglass, have decades of experience helping business owners in Southwest Virginia. In the past, their engagement with Dickenson County has been low, largely due to the distance residents must travel to reach the centers and because of poor communication. Bringing one or both directors to the county to instruct a workshop will raise awareness about their services, and

Figure 11: Implementation Timeline



dispense valuable lessons and information, and help them impact a larger and less accessible audience than their typical one-on-one meetings.

Cumberland Plateau Planning District Commission

The Cumberland Plateau Planning District Commission is highly interested in rolling out regional business development workshops in the future. Their role in the workshop series would involve using their existing survey data to identify key gaps in entrepreneurial education, selecting appropriate instructors from around the region, and potentially co-sponsoring the workshop series in alignment with their broader regional goals. This program could even serve as a pilot for the CPPBC's regional plans.

NGOs: Opportunity SWVA, People Inc., Kiva, Virginia Community Capital, Friends of Southwest Virginia

There are numerous NGOs already engaging in meaningful business development work around the region, but many skip over Dickenson County due to its remote location and lack of infrastructure. These NGOs offer valuable perspectives and resources from financing to marketing to business plan development. Dickenson County should invite these organizations to participate in the curriculum development process through a steering committee as well as to instruct workshops on their respective specialties.

Residents & Program Attendees

One role of this group—beyond attending the workshops—is to provide honest feedback about what they hope to get out of a workshop series during the curriculum development process. The program is ideally catered to the needs of the community, so their input is crucial. Furthermore, program attendees' second role is to anonymously offer feedback regarding the successes and failures of the content after each workshop. This feedback will then be used to restructure the curriculum for future years.

The Dickenson Star

The role of the local newspaper is as an advertising mechanism for the workshop series. The Dickenson Star offers both online and printed copies and appears well-circulated (D. Cronkhite, personal communication, October 2023).

Potential Pitfalls and Risk Mitigation

Given that instructors will be committing to working a half day on a weekend and will be traveling from outside of the county, the IDA should prepare for last-minute instructor cancellations and unavailability.

One strategy to mitigate this risk is to secure instructors' commitments well in advance. Because emergencies are unavoidable, the county should pre-arrange backup instructors for each session. This might mean preparing IDA staff and local business volunteers to teach last-minute workshops. As a last resort, the IDA should be prepared to switch to virtual attendance, which might compromise accessibility for certain attendees.

CONCLUSION

Without intervention, Dickenson County's small businesses will be gone within the next 20 years (U.S. Small Business Administration, 2022). The county must engage potential and current business

owners to improve the trajectory of the local economy. A business development workshop series is a promising pathway to provide highly demanded entrepreneurial education to Dickenson County locals. To ensure that the workshops reach their full potential in terms of impact, the IDA should spend considerable time building partnerships with regional organizations and NGOs, considering community members' feedback, and marketing the program. Of course, no single intervention can "fix" Dickenson County's economy, but this recommendation is a strategic start.

BIBLIOGRAPHY

- About the Appalachian Region*. (n.d.). Appalachian Regional Commission. Retrieved April 3, 2024, from <https://www.arc.gov/about-the-appalachian-region/>
- Agrawal, D. R., & Shybalkina, I. (2023). Online shopping can redistribute local tax revenue from urban to rural America. *Journal of Public Economics*, 219, 104818. <https://doi.org/10.1016/j.jpubeco.2022.104818>
- Anderson, J., Eisenberg, A., Garvey, K., & Richardson, J. (2015). *From Liability to Viability: A Legal Toolkit to Address Neglected Properties in West Virginia*. Land Use and Sustainable Development Law Clinic at the West Virginia University College of Law.
- Anderson, S. J., Chandy, R., & Zia, B. (2018). Pathways to Profits: The Impact of Marketing vs. Finance Skills on Business Performance. *Management Science*, 64(12), 5559–5583. <https://doi.org/10.1287/mnsc.2017.2920>
- Appalachian Mountains—Geology, Plateau, Valleys* | Britannica. (2018). Encyclopedia Britannica. <https://www.britannica.com/place/Appalachian-Mountains/Geology>
- ARC. (2018). *Entrepreneurial Ecosystems in Appalachia*. <http://arceco.creonline.org/dash/profile/?fips=51051>
- Baden, D., & Parkes, C. (2013). Experiential learning: Inspiring the business leaders of tomorrow. *Journal of Management Development*, 32(3), 295–308. <https://doi.org/10.1108/02621711311318283>
- Bailey, T. (n.d.). *Flint, Michigan Small Business Resource Directory*. City of Flint, Michigan. https://coherent-commons.s3.amazonaws.com/artifacts/file/file/10380719-15ad-458e-924f-ee2b083236f6.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIA23B6R4NTCRHS5NZ3%2F20240205%2Fus-east-2%2Fs3%2Faws4_request&X-Amz-Date=20240205T175042Z&X-Amz-Expires=3600&X-Amz-SignedHeaders=host&X-Amz-Signature=f199bfb3aa79d289baebbb32e66c7e529c062abd33c3e6f54c3adc281e869b463
- Bowen, E., Christiadi, Deskins, J., & Lego, B. (2020). *An Overview of Coal and the Economy in Appalachia*. West Virginia University. <https://files.eric.ed.gov/fulltext/ED613678.pdf>
- Calculate the Cost of Direct Mail Campaigns. (n.d.). *USPS Delivers*. Retrieved March 1, 2024, from <https://www.uspsdelivers.com/direct-mail-cost-calculator/>
- Carr, P., & Kefalas, M. (2009). *Hollowing Out the Middle: The Rural Brain Drain and What It Means for America*. Beacon Press.
- Conroy, T., & Low, S. (2021). Opportunity, necessity, and no one in the middle: A closer look at small, rural, and female-led entrepreneurship in the United States. *Applied Economic Perspectives and Policy*, 44. <https://doi.org/10.1002/aepp.13193>

- Conroy, T., & Low, S. A. (2022). Entrepreneurship, Broadband, and Gender: Evidence from Establishment Births in Rural America. *International Regional Science Review*, 45(1), 3–35. <https://doi.org/10.1177/01600176211018749>
- Cronkhite, D. (2023, October). *Interview with Dana Cronkhite, Dickenson County Industrial Development Authority* [Personal communication].
- Cumberland Plateau Planning District Commission. (2023). *Comprehensive Economic Development Strategy: 2024 UPDATE (DRAFT)*. Cumberland Plateau Planning District Commission.
- Dale, L. R. (2007). Website Workshops for Small Business Entrepreneurs. *Journal of Entrepreneurship Education*, 10. <https://www.proquest.com/openview/334c673153809a2e7674ad42c0c32427/1?cbl=28224&pq-origsite=gscholar>
- Dalziel, M. (2018). Why are there (almost) no randomised controlled trial-based evaluations of business support programmes? *Palgrave Communications*, 4(1), Article 1. <https://doi.org/10.1057/s41599-018-0069-9>
- Dickenson County, Virginia—Census Bureau Profile*. (n.d.). Retrieved March 16, 2024, from https://data.census.gov/profile/Dickenson_County,_Virginia?g=050XX00US51051#employment
- Dickes, L. A., Lamie, R. D., & Whitacre, B. E. (2010). The Struggle for Broadband in Rural America. *Choices*, 25(4). <https://www.jstor.org/stable/choices.25.4.09>
- Douglass, M., & O’Quinn, B. (2023, December 6). *Small Business Development Centers Interview* [Personal communication].
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How Effective Are Mentoring Programs for Youth? A Systematic Assessment of the Evidence. *Psychological Science in the Public Interest*, 12(2), 57–91. <https://doi.org/10.1177/1529100611414806>
- Edwards, S. (2024, March). *Email exchange with Stephanie Edwards, SWVA Works* [Email].
- Eesley, C. E., & Lee, Y. S. (2021). Do university entrepreneurship programs promote entrepreneurship? *Strategic Management Journal*, 42(4), 833–861. <https://doi.org/10.1002/smj.3246>
- Eesley, C., & Wang, Y. (2017). Social influence in career choice: Evidence from a randomized field experiment on entrepreneurial mentorship. *Research Policy*, 46(3), 636–650. <https://doi.org/10.1016/j.respol.2017.01.010>
- Empowering Small Business: The Impact of Technology on U.S. Small Business (Second Edition)*. (2023, September 14). <https://www.uschamber.com/small-business/smallbusinessstech>
- Eschker, E., Gold, G., & Lane, M. D. (2017). Rural entrepreneurs: What are the best indicators of their success? *Journal of Small Business and Enterprise Development*, 24(2), 278–296. <https://doi.org/10.1108/JSBED-07-2016-0112>

- Expert Alert: The Economic Impact of Shopping Local*. (2021, November 18). Expert Alert: The Economic Impact of Shopping Local | UMD News Center. <https://news.d.umn.edu/articles/expert-alert-economic-impact-shopping-local>
- Fortunato, M. W.-P. (2014). Supporting rural entrepreneurship: A review of conceptual developments from research to practice. *Community Development*, 45(4), 387–408. <https://doi.org/10.1080/15575330.2014.935795>
- Franklin, J., & Boles, S. (2019, May 23). *Survey Report Reveals Disparities In Appalachian Subregions*. Louisville Public Media. <https://www.lpm.org/news/2019-05-22/survey-report-reveals-disparities-in-appalachian-subregions>
- Galvão, A., Marques, C., & Ferreira, J. J. (2019). The role of entrepreneurship education and training programmes in advancing entrepreneurial skills and new ventures. *European Journal of Training and Development*, 44. <https://doi.org/10.1108/EJTD-10-2019-0174>
- Galvão, A. R., Mascarenhas, C., Marques, C. S. E., Braga, V., & Ferreira, M. (2020). Mentoring entrepreneurship in a rural territory – A qualitative exploration of an entrepreneurship program for rural areas. *Journal of Rural Studies*, 78, 314–324. <https://doi.org/10.1016/j.jrurstud.2020.06.038>
- Gruenspecht, H. (2019). *The U.S. Coal Sector: Recent and Continuing Challenges*. <https://www.brookings.edu/articles/the-u-s-coal-sector/>
- Guerrero, R., Revuelto-Taboada, L., & Virginia, S.-M. (2012). The business plan as a project: An evaluation of its predictive capability for business success. *Service Industries Journal*, 32, 2399–2420. <https://doi.org/10.1080/02642069.2012.677830>
- Haber, D., & Looney, C. (2003). Health Promotion Directory: Development, Distribution, and Utilization. *Health Promotion Practice*, 4(1), 72–77.
- Harkins, A., & McCarroll, M. (2019). *Appalachian Reckoning: A Region Responds to Hillbilly Elegy*. West Virginia University Press.
- Harper-Anderson, E. (2011). *Incubating Success Incubation Best Practices that Lead to Successful New Ventures*. <https://doi.org/10.13140/RG.2.1.2732.6881>
- HdL Companies - Case Study: Assist Small Businesses with Shop Local Campaigns*. (2023). <https://www.hdlcompanies.com/resources/item/65-case-study-assist-small-businesses-with-shop-local-campaigns>
- Hogarth, R., Michaud, C., Doz, Y., & Van Der Heyden, L. (1991). *Longevity of Business Firms: A Four-Stage Framework for Analysis*. University of Chicago, Graduate School of Business.
- Igielnik, K. P., Juliana Menasce Horowitz, Anna Brown, Richard Fry, D’Vera Cohn and Ruth. (2018, May 22). What Unites and Divides Urban, Suburban and Rural Communities. *Pew Research Center’s Social & Demographic Trends Project*. <https://www.pewresearch.org/social-trends/2018/05/22/what-unites-and-divides-urban-suburban-and-rural-communities/>

- Industrial Development Authority of Dickenson County | Dickenson County, VA - Official Website.* (n.d.). Retrieved April 2, 2024, from <https://dickensonva.org/100/Industrial-Development-Authority>
- Johnson, J. (2023, December). *Interview with John Johnson* [Personal communication].
- Jordan, B., Lange, I., & Linn, J. (2018). *Coal Demand, Market Forces, and US Coal Mine Closures*. University of Maryland and Resources for the Future.
- Kilgore, J. (2023, October). *Interview with John Kilgore, Scott County Industrial Development Authority* [Personal communication].
- Kosec, K. (2017, May). *Harnessing information to improve public services for the rural poor: What are the possibilities, and what are the limits?* | IFPRI : International Food Policy Research Institute. <https://www.ifpri.org/blog/harnessing-information-improve-public-services-rural-poor-what-are-possibilities-and-what-are>
- Kosec, K., & Wantchekon, L. (2020). Can information improve rural governance and service delivery? *World Development*, 125, 104376. <https://doi.org/10.1016/j.worlddev.2018.07.017>
- Kyrgidou, L. P., & Petridou, E. (2013). Developing women entrepreneurs' knowledge, skills and attitudes through e-mentoring support. *Journal of Small Business and Enterprise Development*, 20(3), 548–566. <https://doi.org/10.1108/JSBED-04-2013-0061>
- Little, S. (2024, February 21). *Interview with Stephanie Little* [Phone].
- LOCO BC. (2021). *The Impact of Shopping Local: An Economic and Carbon Analysis of 5 Common Purchases*. LOCO BC. <https://silkstart.s3.amazonaws.com/967cfe3b-7d18-4a4b-96a2-daf737cf7d2d.pdf>
- Lukeš, M., Longo, M. C., & Zouhar, J. (2019). Do business incubators really enhance entrepreneurial growth? Evidence from a large sample of innovative Italian start-ups. *Technovation*, 82–83, 25–34. <https://doi.org/10.1016/j.technovation.2018.07.008>
- Maczulskij, T., & Viinikainen, J. (2023). Self-confidence predicts entrepreneurship and entrepreneurial success. *Journal of Business Venturing Insights*, 19, e00382. <https://doi.org/10.1016/j.jbvi.2023.e00382>
- Marchewka, J. T., Liu, C., & Peterson, C. G. (2003). *Perceptions of unsolicited electronic mail or spam*.
- Marshall, D. R., Meek, W. R., Swab, R. G., & Markin, E. (2020). Access to resources and entrepreneurial well-being: A self-efficacy approach. *Journal of Business Research*, 120, 203–212. <https://doi.org/10.1016/j.jbusres.2020.08.015>
- Matarazzo, M., Diamantopoulos, A., & Raff, A. (2023). “Buy local” campaigns in times of crisis: Insights from reactance theory. *International Marketing Review*, 40(7), 45–78. <https://doi.org/10.1108/IMR-09-2022-0202>

- Mazzarol, T. (2001). Do Formal Business Plans Really Matter? – An Exploratory Study of Small Business Owners in Australia. *Small Enterprise Research*, 9(1), 32–45. <https://doi.org/10.5172/ser.9.1.32>
- Moayerian, N., McGehee, N. G., & Stephenson, M. O. (2022). Community cultural development: Exploring the connections between collective art making, capacity building and sustainable community-based tourism. *Annals of Tourism Research*, 93, 103355. <https://doi.org/10.1016/j.annals.2022.103355>
- Montague, M. L., Sweet, K. S., Stough, L. M., Sharp, A. N., & Miracle, I. (2021). Designing and developing a disaster resource directory: A case example. *Journal of Emergency Management (Weston, Mass.)*, 20(1), 77–87. <https://doi.org/10.5055/jem.0576>
- Morgan, M. D. (2002). *Central Appalachia*. Housing Assistance Council. <https://ruralhome.org/wp-content/uploads/storage/documents/appalov.pdf>
- Munawar, D. U., Gul, D. F., & Noreen, D. S. (2020). Are push and pull factors for entrepreneurship and brain drain same? Perception of students and professionals. *Journal of Business & Tourism*, 6(2), Article 2. <https://doi.org/10.34260/jbt.v6i2.155>
- Nearly Half of Americans Have Considered Starting a Business—Here’s What’s Stopping Them*. (2023, July 27). Yahoo Finance. <https://finance.yahoo.com/news/nearly-half-americans-considered-starting-140058309.html>
- News Flash: Lenovisco’s Newly-Announced Investment in Broadband Expansion*. (2023, August). Dickenson County Website. <https://dickensonva.org/CivicAlerts.aspx?AID=587>
- Okocha, F., Botu, T., Idiegbeyan-ose, J., Aregbesola, A., & Owolabi, S. (2019). Access to Information as a Veritable Strategy for Successful Entrepreneurship in a Developing Country. *IOP Conference Series: Materials Science and Engineering*, 640, 012125. <https://doi.org/10.1088/1757-899X/640/1/012125>
- Online Small Business Seminars | Charlottesville, VA*. (2024). <https://www.charlottesville.gov/228/Online-Small-Business-Seminars>
- Phillips, A. (2024, January). *Interview with Amanda Phillips (Happy Juice)* [Personal communication].
- Pipa, T. (2023, October). *Interview with Tony Pipa, Senior Fellow at the Brookings Institution* [Personal communication].
- Porter, A. (2023, October 17). Opt-In vs Opt-Out? Understanding Consent Management. *BigID*. <https://bigid.com/blog/opt-in-vs-opt-out-consent/>
- Pruett, M. (2012). Entrepreneurship Education: Workshops and Entrepreneurial Intentions. *Journal of Education for Business*, 87(2), 94–101. <https://doi.org/10.1080/08832323.2011.573594>
- Reimagining Rural Policy*. (n.d.). Brookings. Retrieved October 11, 2023, from <https://www.brookings.edu/collection/reimagining-rural-policy/>

- Richmond, W., Rader, S., & Lanier, C. (2017). The “digital divide” for rural small businesses. *Journal of Research in Marketing and Entrepreneurship*, 19(2), 94–104. <https://doi.org/10.1108/JRME-02-2017-0006>
- Ricket, A. L., Knutsen, F. B., Jolley, G. J., & Davis, S. C. (2023). Appalachian social entrepreneurship ecosystem: A framework for rural development. *Community Development*, 54(3), 315–336. <https://doi.org/10.1080/15575330.2022.2155676>
- Robinson, C. (2024, February). *Interview with Chris Robinson* [Phone].
- Rotefoss, B., & Kolvereid, L. (2005). Aspiring, nascent and fledgling entrepreneurs: An investigation of the business start-up process. *Entrepreneurship & Regional Development*, 17(2), 109–127. <https://doi.org/10.1080/08985620500074049>
- Salary.com, S. built by: (n.d.). *Ridgeview High School Salary for Teacher* | Salary.com. Salary.Com. Retrieved February 28, 2024, from <https://www.salary.com/research/company/ridgeview-high-school/teacher-salary?cjid=21312795>
- Salehudin, I. (2016). 100% ♥ Indonesia: Role of Government Campaign to Promote Local Products in Indonesia. *ASEAN Marketing Journal*, 8, 1–17. <https://doi.org/10.21002/amj.v8i1.4907>
- Schulman, C. (2018). *Best Practices for Technical Assistance Programs Serving Black and Hispanic Entrepreneurs and Small-Business Owners*. Milken Institute.
- Sciglimpagalia, D., & Toole, H. (2008). Estimating Demand Potential and Marketing Small Business Workshops. *Small Business Institute Journal*, 1. file:///Users/Katharine/Downloads/26288-estimating-demand-potential-and-marketing-small-business-workshops%20(1).pdf
- Shaffer, A. (2017, June 12). *The “H” word: Fighting negative language stereotypes in Appalachia* | Eberly College of Arts and Sciences | West Virginia University. WVU Weberly College of Arts and Sciences. <https://eberly.wvu.edu/news-events/eberly-news/2017/06/12/the-h-word-fighting-negative-language-stereotypes-in-appalachia>
- Shah, M. H., Othman, A. R. B., & Mansor, M. N. B. (2016). Mentoring and Organizational Performance: A Review of Effects of Mentoring on Small and Medium Enterprises. *Journal of Business and Social Review in Emerging Economies*, 2(2), 143.
- Smith, N. (2023, October). *How Incubators Help Startups Survive*. Business News Daily. <https://www.businessnewsdaily.com/272-incubators-increase-small-business-success.html>
- Solenski, T. (2019). Empowering Female Entrepreneurs Through Mentorship in Medellin, Colombia: Results from the Field. *Master's Theses*. <https://repository.usfca.edu/thes/1181>
- Stearns, S. (2017). Exploring Options for Local Foods Campaigns. *The Journal of Extension (JOE)*. <https://archives.joe.org/joe/2017august/rb3.php>
- Stephens, H. M., & Partridge, M. D. (2011). Do Entrepreneurs Enhance Economic Growth in Lagging Regions? *Growth and Change*, 42(4), 431–465. <https://doi.org/10.1111/j.1468-2257.2011.00563.x>

- Stephens, H. M., Partridge, M. D., & Faggian, A. (2013). Innovation, Entrepreneurship and Economic Growth in Lagging Regions. *Journal of Regional Science*, 53(5), 778–812. <https://doi.org/10.1111/jors.12019>
- St-Jean, E. (2012). Mentoring as professional development for novice entrepreneurs: Maximizing the learning. *International Journal of Training and Development*, 16(3), 200–216. <https://doi.org/10.1111/j.1468-2419.2012.00404.x>
- Subregions in Appalachia*. (2021). Appalachian Regional Commission. <https://www.arc.gov/map/subregions-in-appalachia/>
- Surratt, R. (2023, October). *Interview with Rita Surratt, Dickenson County Chamber of Commerce President and Tourism Director* [Personal communication].
- The Local Multiplier Effect*. (2012). AMIBA. <https://amiba.net/project/local-multiplier-effect/>
- The State of the Urban/Rural Digital Divide | National Telecommunications and Information Administration*. (2016). <https://www.ntia.gov/blog/2016/state-urbanrural-digital-divide>
- Townsend, D. M., Busenitz, L. W., & Arthurs, J. D. (2008). *To Start or Not to Start: Outcome and Ability Expectations in the Decision To Start a New Venture* (SSRN Scholarly Paper 1313836). <https://papers.ssrn.com/abstract=1313836>
- Trisko, E. (2024). *The Rise and Decline of Coal Mining Jobs, 1970-2022*. JD Supra. <https://www.jdsupra.com/legalnews/the-rise-and-decline-of-coal-mining-2779818/>
- UPS Store. (2013). *The UPS Store Makes “Mentoring Month” Matter for Small Business Owners*. <https://www.theupsstore.com/about/pressroom/small-business-mentoring-month-2014>
- US Census Bureau. (2022). *QuickFacts: Dickenson County, Virginia*. <https://www.census.gov/quickfacts/fact/table/dickensoncountyvirginia/PST045222>
- U.S. Small Business Administration. (2022). *1978-2021 Small Business Dynamism by State and County* [dataset].
- Valuing the Future: Revision to the Social Discount Rate Means Appropriately Assessing Benefits and Costs | CEA*. (2024, February 27). The White House. <https://www.whitehouse.gov/cea/written-materials/2024/02/27/valuing-the-future-revision-to-the-social-discount-rate-means-appropriately-assessing-benefits-and-costs/>
- Varghese, M. E., Parker, L. C., Adedokun, O., Shively, M., Burgess, W., Childress, A., & Bessenbacher, A. (2012). Experiential Internships: Understanding the Process of Student Learning in Small Business Internships. *Industry and Higher Education*, 26(5), 357–367. <https://doi.org/10.5367/ihe.2012.0114>
- Vogels, E. a. (2021). Some digital divides persist between rural, urban and suburban America. *Pew Research Center*. <https://www.pewresearch.org/short-reads/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/>

Wampler, S., & Dillon, J. (2023, October). *Interview with the Cumberland Plateau Planning District* [Personal communication].

Wei-Skillern, J. (2007). *Entrepreneurship in the Social Sector*.

What Are The Types Of Businesses That Can Benefit From Using A Business Incubator Accelerator. (n.d.). FasterCapital. Retrieved April 3, 2024, from <https://fastercapital.com/keyword/What-are-the-types-of-businesses-that-can-benefit-from-using-a-business-incubator-accelerator.html>

What Is Killing the US Coal Industry? | Stanford Institute for Economic Policy Research (SIEPR). (n.d.). Retrieved April 3, 2024, from <https://siepr.stanford.edu/publications/policy-brief/what-killing-us-coal-industry>

Wisconsin Small Business Administration. (2015). *Resource Guide for Small Business*. Reni Publishing. https://coherent-commons.s3.amazonaws.com/artifacts/file/file/b5b86b50-0899-45a2-83a7-df0f51228b9c.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIA23B6R4NTCRHS5NZ3%2F20240205%2Fus-east-2%2Fs3%2Faws4_request&X-Amz-Date=20240205T181147Z&X-Amz-Expires=3600&X-Amz-SignedHeaders=host&X-Amz-Signature=e6444ba9bc9db4f9a3185ebd6e111711d2162be22b5aa5502d7a574384bc3d03

Yiftee. (2023). *Blog: Shop Local Campaigns That Actually Work*. <https://www.yiftee.com/blog/shop-local-campaigns>

APPENDIX

General Calculation Assumptions

GENERAL ASSUMPTIONS	
Discount Rate	2%
Intervention Impact Timeline (years)	20
Minimum hourly wage	\$ 12
Average hourly wage	\$ 20

Calculations for Alternative 1: Internship Program

INTERNSHIP PROGRAM	
Business participation	12
Student participation (average)	12
Weeks	6
Days per week	3
Hours per day	6
Minimum Wage/Hr	\$12
Full-time salary business teacher	\$50,000
Administrative costs (part-time advisor wages- i.e. 6 weeks of salary)	\$8,300
Stipend (per student)	\$1,300
Estimated annual increase in participation (student)	2
Stipend (total)	\$15,600
Year 1 Total	\$23,900

EFFECTIVENESS	
Share of Stanford program participants who started businesses at 23-24 years old	18.4%
Ridgeview student likelihood of starting a business at 23-24 years old (25% off Stanford share)	5%
YEAR	NEW STARTUPS
1	0
2	0
3	0
4	0
5	0
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	2
18	2
19	2
20	16
1st year cohort startups	
Additional likelihood of starting a business at 25+ years old	5%
Number of participants who will be 25+ years old by year 20	350
Additional businesses (20-year period)	17
1st-14th cohorts	

YEAR	COST	
1	\$	23,900
2	\$	25,471
3	\$	27,422
4	\$	29,286
5	\$	31,067
6	\$	32,766
7	\$	34,387
8	\$	35,932
9	\$	37,403
10	\$	38,802
11	\$	40,133
12	\$	41,396
13	\$	42,594
14	\$	43,729
15	\$	44,804
16	\$	45,819
17	\$	46,778
18	\$	47,681
19	\$	48,531
20	\$	49,329
TOTAL		\$767,000

SENSITIVITY	
High participation	20
Total cost	\$ 937,000
Low participation	5
Total cost	\$ 618,000

TOTAL COST	\$767,000
TOTAL NET NEW BUSINESSES	33
COST-EFFECTIVENESS	\$23,000

Calculations for Alternative 2: Workshops

WORKSHOPS	
Hours per month	4
Hours per year	48
Participation	25
Instructors/Administrators	3
Venue (Client has free space at her office)	\$ -
Handouts (100, black and white) 12 sessions	\$ 96
Food/Drink (12 sessions)	\$ 3,000
Dickenson Star Article	\$ -
Average salary full-time worker Dickenson County	\$ 42,300
Hourly breakdown salary (cost of time)	\$ 20
Opportunity Cost of Time (Participants)- Workshop Time	\$ 24,404
Cost of Time (Instructors)- Workshop Time	\$ 2,928
Annual Administrative Costs (10 hours spent on registration, set up, take down per month)	\$ 7,321
Curriculum (there are free programs online to model the workshop off) https://www.scu.edu/mobi/business	\$ -
YEAR 1 TOTAL	\$ 37,700.00

EFFECTIVENESS	
Estimated share of participants who are not already business owners	50%
Likelihood of starting a business after 12 sessions (1 year)	61%
Likelihood of starting a business in Dickenson after 12 sessions (1 year)	46%

YEAR	NEW STARTUPS
1	0
2	6
3	6
4	6
5	6
6	6
7	6
8	6
9	6
10	6
11	6
12	6
13	6
14	6
15	6
16	6
17	6
18	6
19	6
20	6
TOTAL	109

COST-EFFECTIVENESS	\$6,000
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YEAR	COST
1	\$ 37,700
2	\$ 36,236
3	\$ 35,526
4	\$ 34,829
5	\$ 34,146
6	\$ 33,477
7	\$ 32,820
8	\$ 32,177
9	\$ 31,546
10	\$ 30,927
11	\$ 30,321
12	\$ 29,726
13	\$ 29,143
14	\$ 28,572
15	\$ 28,012
16	\$ 27,462
17	\$ 26,924
18	\$ 26,396
19	\$ 25,878
20	\$ 25,371
TOTAL	\$ 618,000

SENSITIVITY	
High participation	40
Total cost	\$ 886,000
Low participation	10
Total cost	\$349,000

Calculations for Alternative 3: Business Resource Directory

RESOURCE DIRECTORY	
Estimated pages in directory	10
Estimated hours to build initial directory	40
Estimated hours of annual maintenance	15
# of households in Dickenson county	5,543
Sheets of paper sent out annually	55,430
Cost to print one 8 1/2 x 11 Double Sided Copy	\$ 0.07
Total printing cost per year	\$ 3,880
Postage (stamps + envelopes)	\$ 2,772
Design (year 1 only)	\$ 600
Cost of labor Year 1	\$ 1,400
Cost of labor subsequent years	\$ 300
Total cost year 1	\$ 8,052

EFFECTIVENESS	
Population	14000
Share of self-employed locals	5%
Share of Americans who have considered starting a business	42%
Estimated # of Dickenson residents interested in starting a business	5880
# of new businesses in 2021	13
proportion of interest:action	0.22%
Average resource directory utilization among recipients (Galveston Case) - utilization = used a resource listed	43%
Decline in utilization after year 1 (Hurricane Harvey Case)	85%
Estimated resource directory utilization Dickenson County (Y1)-share	20%
Estimated resource directory utilization Dickenson County (Y1)-people	2797
Estimated resource directory utilization Dickenson County (Y2-Y20) - share	3%
Estimated resource directory utilization Dickenson County (Y2-Y20) - people	419
Access to information affect on confidence (standard deviations, 5-point scale)	1 standard deviation
1 standard deviation increase in confidence on startup rates (%)	24%
increase in business entries (YEAR 1)	3

YEAR	COST	
1	\$	8,052
2	\$	7,739
3	\$	7,587
4	\$	7,438
5	\$	7,293
6	\$	7,150
7	\$	7,009
8	\$	6,872
9	\$	6,737
10	\$	6,605
11	\$	6,476
12	\$	6,349
13	\$	6,224
14	\$	6,102
15	\$	5,982
16	\$	5,865
17	\$	5,750
18	\$	5,637
19	\$	5,527
20	\$	5,418
TOTAL	\$	132,000

YEAR	NEW STARTUPS	
1	3	
2	0.5	Drop-off in usage
3	0.5	every other year there is one business
4	0.5	
5	0.5	
6	0.5	
7	0.5	
8	0.5	
9	0.5	
10	0.5	
11	0.5	
12	0.5	
13	0.5	
14	0.5	
15	0.5	
16	0.5	
17	0.5	
18	0.5	
19	0.5	
20	11	
COST-EFFECTIVENESS		\$11,500

Sensitivity	
Low impact on startup rates	10%
Total new startups	5
High impact on startup rates	30%
Total new startups	14