Why Rural Regions Struggle to Compete: A Dynamic Capabilities Perspective

Bill Provaznik, IDEA Central, Central Washington University, 400 East University Way, Ellensburg, WA 98926 bill.provaznik@cwu.edu
Keke Wu, IDEA Central, Central Washington University, 400 East University Way, Ellensburg, WA 98926 keke.wu@cwu.edu
Rob Ogburn, Business & Community Services, Central Washington University, 400 East University Way, Ellensburg, WA 98926, rob.ogburn@cwu.edu

ABSTRACT

This study extends current work on strategic framing into strategic decision making associated with regional economic development. Regional government decision makers deploy strategic management steps including interpretation of internal/external task environment, choosing possible strategies, and implementing them towards advancing the interests of their communities. Viewing their strategies through a Dynamic Capabilities perspective, we analyze the Comprehensive Economic Development Strategies (CEDS) of 91 counties in the Pacific Northwest and factors associated with rural and metro regional development. Results suggest a negative relationship between rurality, but no relationship with median home value, and the Sensing and Seizing components of DC's when controlling for income.

Keywords: Dynamic Capabilities, Strategic Framing, CEDS, County Government

INTRODUCTION

The persistent economic struggles of rural regions in the United States reflect deeper structural challenges that extend beyond simple policy interventions. While the disparities between metropolitan and rural economies have long been recognized in economic theory, the competitive disadvantage of rural areas has intensified in recent decades. On average, rural poverty rates exceed those of metropolitan areas (15.4% vs. 13.9%), with many counties experiencing extreme poverty levels of 40% or higher, disproportionately affecting Black, Hispanic, and Native American communities (USDA Economic Research Service, 2022). These disparities stem not just from resource constraints but also from the inability of rural regions to develop and sustain dynamic capabilities—the capacity to adapt, innovate, and compete in evolving economic landscapes.

Job losses, wage stagnation, rising healthcare costs, and increasing living expenses create a self-reinforcing cycle of economic distress. Rural community members, particularly younger individuals, with limited opportunities often fall deeper into poverty, while those with the means to leave seek better prospects elsewhere, accelerating outmigration (Davis et al., 2022). This erosion of human capital and tax bases weakens local governments' ability to provide essential services, further diminishing the region's adaptive capacity (Marre, 2020). Without the ability to respond effectively to shifting economic forces, rural communities remain trapped in a cycle of decline, struggling to develop the competitive advantages necessary for long-term sustainability. Understanding why rural regions struggle to compete requires moving beyond traditional economic indicators to examine the underlying capabilities that enable or constrain regional resilience and economic renewal.

Of the potential contributing factors to regional development, human capital, financial capital, and technological innovation have been of increasing interest to studies of regional economic development models. Regions with the ability to successfully attract technological talents gain an ability to better adapt to technological changes as well as further attract financial resources. This leads to a fortuitous cycle of advancement, attraction and development (Qian, et al. 2013). These factors, particularly when concentrated

in businesses within the same industry, known as "industry clusters," are considered the ideal drivers for broad based economic growth (Economic Development Administration (EDA), 2023; Romer, 1998). Following this model of regional development, US State and Federal Agencies have provided support through regional government planning towards building capacities with the expectation of increasing new businesses and expanding existing businesses in regions across the nation, often with particular attention to areas experiencing inequality and poverty challenges. Despite the equal and even preferential access for distressed regions to win external support, the unequal growth persists, often with accelerating gaps between high and low wealth regions where the low growth regions fail to foster business ecosystems that create the growth that developed ones do.

Our contention is that while the factor endowments of a region contribute to the capacity for its economic growth, they also affect the shared cognition of the members of the region about economic means-ends logics. These regional logics shape the interpretive frameworks of the regional strategic planning activities that leading to strategic action. This impacts the region's ability to align with its external environment. This also serves to promote or inhibit their region's competitive advantage in larger markets and innovation efforts.

In 1995, James Walsh described industry clusters through a basis of shared knowledge structure among the participants connected across the supplier, customer, financial, and policy making stakeholders involved (Walsh, 1995). Since then, the topic has received increasingly intense scrutiny as advances in theory have led to further insights into the limitations of rational decision-making models (Narayanan, et al. 2011; While advances in the field of strategic cognition have provided guidance in organizational strategy craft, these concepts lend perspective to our efforts herein.

THEORY

In a process that Schumpeter described as "Creative Destruction", incumbent technology is displaced by newer, cheaper, more effective disruptive technologies. Industry practices and often entire industries themselves give way to industries leveraging new technologies which provide more effective, efficient means of generating value (Christenson & Raynor, 2003). Accompanying these disruptions are sharp transformations in and among supply chains, leaving entire segments, and in certain cases entire communities, out of the new recombination of value creation processes working together towards the end product (Hsieh, et al., 2023). While this has led to general reductions in costs of commodity resources over time (Julian Simon, 1980), it has also further contributed to an erosion in the value of low and unskilled labor. This erosion of commodity values leads to a disproportionate impact on rural communities, which tend to rely on resource extraction and low value-added industry segments as primary components of their economies (Gurley, 2016).

This technological advancement varies across regions. Many empirical and theoretical investigations of economic growth have implicated differences in technological advancement and innovation as a key factor leading to differences in economic growth among regions. Vernon's Product-Cycle Model captures a process where developed countries advanced technology products, selling them to less developed countries, who would eventually replicate the technology for themselves while the developed countries would advance beyond the initial technology (Mullor-Sebastian, 1983; Gruber et al. 1967, Li & Lu 2018). Lower income countries replicate the technology at lower costs given replication is generally cheaper than development. The yields were much lower given the maturity of the technology. His model suggests two differing sets of inputs between those entities which develop new products, and those which produce products.

Closing the economic gap between higher and lower technology regions is only possible if technology progress is faster in the lower technology regions than the ones which are more advanced (Hsieh, et al., 2023). This is not possible without factors promoting acceleration in technological and innovative

advancement. Such advance is only feasible with both an awareness of relevant factors necessary for change, and an ability to execute relevant change towards the relevant factors.

While decades of theory development have focused on the struggle with rural economic disparities at the international level particularly undeveloped nations, a similar effect has been noted in developed economies. In the United States, rural areas suffer from geographic distance from institutes of higher education, as well as vocational and technical schools, leading to gaps in education where rural areas tend to have lower levels of advanced education populations than metros (31% to 20% respectively) (Kusmin, et al, 2008). Job and labor markets are more diverse in larger metro areas. Industry disruptions resulting from technology change, or even complete elimination of an industry, are more easily absorbed in economic regions possessing a wide variety of industry, trade, and workforce options. Governments of metro regions are better able to maintain equilibrium from the shifting sources of tax revenues, and to provide support for transitional workforce patterns. In other words, members of a metro workforce have a wider array of new possibilities for employment.

In rural communities however, a loss of an industry is met with few or no options for the individual and often presents the community with a more substantial crisis given that a single employer may often dominate a vast region. Such events lead to a cascade of revenue collapses across the region's related industries as well as their governments, leading to secondary collapses of employments and revenues that support public infrastructure. Given the lower skilled workforce characteristics of industries typical of non-metro regions, their industry ecosystem is vulnerable to external competitors that compete only on cost rather than technology. Recent shifts in technology and offshoring have led to a further price erosion resulting in accelerated physical and low-wage labor industries characteristic of rural regions, compared to service industries which depend on the agglomerative nature of metro areas (Tickamyer & Duncan, 1990; Li & Zhang, 2025).

The ability to change has been a long-recognized asset for actors in environments experiencing change and uncertainty and has been a fundamental phenomenon of study for the field of Strategic Management. Strategic management evolved from military strategy, where the attention of theorists focused primarily on adversaries, physical environment, and the condition of one's own forces (Clauswitz,1989; Hughes, 1993; Freedman, 2015). Business theorists carried this forward, at first focusing on the roles of internal factors in enterprise success, such as Barnard's *Function of the Executive*, and Selznik's *The theory and growth of the Firm.* Later work emerged from the field of economics, where factors outside the enterprise were seen as influential towards success or failure (Caves,1964; Porter 1984). Kenneth Andrews (1987, Gurel & Tat, 2017) is often attributed for the creation and formulation of the "SWOT" analysis as part of what came to be known as a contingency framework, wherein a strategist's role is to recognize relationships between internal and external factors towards creating initiatives advancing the interests of their enterprise.

Porter (1990) advanced the view that strategic management can be applied to policy making by governments in their efforts to raise the wages of their constituents. In a framework, widely used in economic development efforts by government agencies such as the US Economic Development Administration (Poister & Streib, 2005), Porter explains "It is high productivity jobs, not any jobs, that translate into high national income… To find answers, we must focus not on the economy, but on *specific industries, and industry segments."*

Near this time, a growing awareness emerged that the environmental turbulence was eroding the value and time horizons of conventional industry analyses. Traditional analysis techniques such as the Five Forces analysis, and the SWOT analysis acknowledged new assumptions into strategic analysis processes, however, in the case of Porter's model the analyses look at factors such as power relationships over customers, suppliers, rivals, as well as existence of substitutes and potential for new entrants. In the case of SWOT analyses, the goal is to recognize an enterprise's strategic internal and external conditions, at best

itemizing resources and capabilities, but instead typically amounting to a superficial inventory of issues and items (Valentine, 2001). It is at this point that two relevant streams of theory to this paper emerged.

Dynamic Capabilities

The concept of dynamic capabilities questions the earlier assumption of static or predictably static environments and provides foundation for discovering answers as to what internal factors provide an enterprise with the ability to survive and thrive in environments undergoing consistent change. Industries operating within a limited resource environment undergoing change will select those partners or inputs possessing attributes matching the new context, leaving others for industry exit (Aldrich & Ruff, 2006). Turbulence is a source of discontinuities in regulatory, economic, social norms, and technological facets of an environment. In new environmental configurations, the ability to anticipate/sense, seize, and implement opportunity leveraging initiatives exploiting these discontinuities is a critical capability.

Early strategic theories emphasized the importance of aligning internal strengths with external market conditions, assuming a relatively stable environment where standardized solutions could be developed through careful analysis. Competitive advantage, in this view, was defined as achieving the ideal fit between internal capabilities and the external pressures posed by competitors, substitute products, or the bargaining power of suppliers and customers (Porter, 1990). Around the same period, a different perspective emerged in the form of the *Resource-Based View* (RBV), which conceptualized an enterprise as a unique bundle of resources. According to this theory, success depended on the extent to which its resources were valuable, rare, difficult to imitate, and non-substitutable (Barney, 1991).

However, as industries and technologies evolved more rapidly and in increasingly unpredictable ways, strategic thinkers began to recognize the effects of environmental turbulence on competitive dynamics. In this shifting landscape, competitive advantage no longer relied solely on maintaining alignment; instead, firms needed to adapt continually to new entrants, regulatory changes, and shifting supplier and customer dynamics. Likewise, resources that were once considered valuable or rare required constant reevaluation to retain their strategic importance. In response to this heightened dynamism, later theories suggested that an enterprise's ability to drive ongoing internal change and realign with external conditions could itself be a source of competitive advantage. This perspective highlights that an adaptable bundle of capabilities, allowing for continuous internal and external alignment, may provide a sustained competitive edge or at least serve as a best practice in dynamic markets (Eisenhardt & Martin, 2000).

The uncertainty associated with turbulent markets is induced by randomness and unexpected change (Teece & Pisano, 1994). It consists of pure unknowable circumstances require probing or enactment to discover the true nature of the environment as it only exists as a response to the intrusion of those within it (Weick, 1995). Addressing these aspects of uncertainty, Teece advanced the framework of dynamic capabilities being a higher order capability involved with change and exploitation of current capabilities towards an expected or unexpected future. While environmental change often involves linearity as well as unexpected disruption, given the increasing complexity of the growing interconnectivity between actors in economies, even linear change leads to consequences which are increasingly unpredictable (Schueler, 1996). Each actor within an environment arrives at a current point in time through its own history and experiences. The combination of idiosyncratic factors is a true source of competitive advantage in that it cannot be replicated by other organizations, however, it also resists the formulation into sets of "best practices" (Teece, 2014; Schilke, et al., 2018).

Such idiosyncratic capabilities distinguish themselves from ordinary routines as they are "dynamic capabilities", addressing the need for active engagement in addressing known and unknown future needs, technological change of the external environment, as well as the internal capabilities to face those needs. Dynamic capabilities are "the ability to sense, seize, and transform, in order to generate and exploit internal

and external enterprise specific competencies, and to address the enterprise's changing environment." (Teece, 2009, p 88). Given the roles of public enterprises in supporting economic development and given that EDD entities are primarily policy-making organizations, we have constrained our focus to the sensing and seizing elements.

Strategic Frames

The cognitive view of strategic action questions earlier assumptions of rationality of actors in competitive environments, given the limits of human and group cognition, particularly in the area of sense making. Scholars have documented numerous instances where shared cognitions supporting economic activities evolved in regional and industry communities. In their groundbreaking study, Porac et al. (1989) observed a population of Scottish manufacturing companies competing against each other with what outsiders considered subtle differences in products. Over time, actors in an economic environment, including competitors, develop reciprocal links leading to the formation of "shared mental models", which are used by the participants to derive understandings of their environment. Similar shared understanding was observed across industries in the form of "Industry Recipes" (Spender, 1989), "Dominant Logics" (Prahalad & Bettis, 1986), where members of an industry share standard practices or understandings and are frequently resistant to more effective and efficient processes available in their trade.

More recent work has implicated these shared mental models in the success and failure of firms facing rapid technology shifts in their industries. In a story explaining Blockbuster's end, the CEO of Netflix approached the top management team of Blockbuster with the proposition of forming a partnership over streaming. His appeal resulted him getting "laughed out of the room" given the incongruence with Blockbuster's current business model. Conversely, Netflix's top management team framed online streaming and their business model more flexibly, making them more amenable to adapting it into their subscription services (Rafaelli, et. al, 2018).

Strategic frames are interpretive lenses that shape decision making groups' perceptions of their environments and responses (Eggers & Kaplan, 2013; Raffelli et al. 2018). Patterns in how the strategic frames developed have been noted between businesses in high and low velocity industries. Low velocity industries were noted to assume that their environments are concrete and measurable. They develop and maintain strong ties with selected constituents that they trust, which displace relationships allowing for new ideas, practices, and evolving information (Grannovetter, 1973; Nadkarni & Narayanan, 2007). Those in high velocity industries create their own environments by searching for new ideas, experimenting, probing through new technology and external sources of new information (Daft & Weick, 1984). As one example, using this framework, Nadkarni and Narayanan (2007) were able to demonstrate differences in the complexity of strategic frameworks between high-velocity semi-conductor manufacturers and low-velocity air frame manufacturers.

Regional governments share similar characteristics to members of industries. Regional governments compete for scarce resources, they exist in unique political, social, geographic, and economic contexts, and they are guided by groups of decision makers who develop and execute policy that affect the economic activities of their respective regions. Given the inter-relational nature of stakeholders and economic actors in particular regions, over time these will evolve into shared understandings, cognitions, and priorities towards issues facing the region. As in industry, these shared understandings lead to a cognitive framework providing an interpretive structure for approaching information their environment to explain what is happening. Likewise, these frameworks define what constitutes proper courses of action (Cornelissen & Werner, 2014). The evolution of these ties is influenced by three factors: The density of the actors in the regions, the human capital of the members in the area, and the wealth of the actors in the respective regions.

Rurality

Innovation has been a key driver for those enterprises which are successful in changing environments. In regional development, innovation has been a difficult concept for measurement. Citing the relative reduction of researchers, engineers, and patents over time, some have suggested a ceiling effect where innovation leads to marginally fewer returns on investment. (Scherer, 1999). However, this may mis-attribute innovative activity to formal channels when the activity has been increasingly decentralized, with the most dramatic effects being in smaller enterprises (Baumol, 2010). One suggestion as a driver of this emergent increase innovative activity has been the increase in interactions between novel ideas. Ideas as being consequences of previous ideas, as knowledge stocks grow, the potential for novel ideas through recombination increases in a process where each additional idea leads to a factorial increase above those of the predecessors (Romer, 1998; Weitzman, 1996;1998).

Innovative recombination requires not just a population of ideas, but also mechanisms for the ideas to recombine. Technological trends have made communication processes more efficient for knowledge diffusion for some time (Freidman, 2005). However, for complex or tacit knowledge, technology has not effectively displaced proximity as a channel for spawning innovative activity (Florida, 2005). Further looks at proximity as a catalyst for innovation have shown regional differences. Recent work has implicated micro regional effects such as configurations of city blocks within large metropolitan regions as precursors to innovative output of particular city regions (Roche, 2020). Relatively closer proximity of individuals to each other provides a more likely physical conduit for knowledge exchange, leading to:

Hypothesis 1a: *Rurality will be negatively related to the proportion of dynamic capabilities to total factors addressed during strategic sense making by regional governments.*

Hypothesis 1b: *Rurality will be negatively related to the proportion of dynamic capabilities strategies to total strategies advanced by a regional government.*

Human Capital

Technological advancement is a multiplier for labor productivity. Using the Solow Model, where economic development is driven by the two factors: capital and labor, Mankiw et al (1992) added human capital as a critical driver of economic growth. As technology augments labor, diminishing returns of labor make growth more sensitive to capital as it drives economic growth. However, technology also increases the output of capital, in a reciprocal effect. Technology can emerge from practice, but it can also be enhanced through education of human capital. Galor and Weil's Model of Human Capital Accumulation attributes the economic growth post 1800 to "human capital augmented populations" who generated ideas leveraging recent innovative ideas towards a further process of ideation (Galor & Weil, 1999).

Earlier models noted the necessity of human capital towards technological progress. Vernon's Model of technological progress advanced a lifecycle process where innovation requires the ability to recognize opportunities as well as provide technical expertise, both of which are reliant on the "knowledge" of a population. Vernon saw regional populations possessing varying levels of this knowledge and postulated that an economy's ability to create new ideas, as well as adapt old ones, will lead to a long run situation where the relative level of technology will reflect the relative levels of human capital (Vernon, 1966; Li & Lu 2018). Further theory on innovation at the individual and firm level recognized factors leading to innovative capacity. Recognition the value of new external information, as well as assimilate and apply it in a way to create value involves cognitive learning processes critical to change in an enterprise. Absorptive capacity involves an interaction between individual/organizational experience and factors such as diversity of expertise. It also is influenced by individual levels of education (Cohen & Levinthal, 1990). Levels of technology afford an ability to recognize technology advancement, and the flexibility for innovative

activities and the leverage of emerging opportunities in a changing environment by the regional populations such that:

Hypothesis 2a: *Human Capital will be positively related to the proportion of dynamic capabilities to total factors addressed during strategic sense making by regional governments.*

Hypothesis 2b: *Human Capital will be positively related to the proportion of dynamic capabilities to total strategies advanced by a regional government.*

Relative Wealth

In an economy, specialized research requires expensive inputs and advanced training to achieve regular breakthrough leading to advancements. Counterintuitively, smaller firms are a disproportionately responsible for transformational breakthroughs, where larger firms innovate, but do so along incremental breakthrough to existing technology (Baumol, 2010). Theoretically, innovation can originate in regions consisting of locations with the resources and technical populations to achieve such projects, particularly given current technologies for remote work. Relative wealth also provides degrees of freedom for experimentation, a buffer for risk, and a means of continuity during economic cycles, leading to a higher propensity for recognizing the emergence of opportunities for change, and formulating strategies for seizing them (Corradin & Popov, 2015), such that:

Hypothesis 3a: *Relative Wealth will be positively related to the proportion of dynamic capabilities to total factors addressed during strategic sense making by regional governments.*

Hypothesis 3b: *Relative Wealth will be positively related to the proportion of dynamic capabilities to total strategies advanced by a regional government.*

METHOD

As a pilot study with the intention of revealing the relationships hypothesized above, but also to establish CEDS documents as a source of semantic validity with respect to strategic cognition in regional governance (Weber, 1990), the investigation was confined to a regional focus. Examining a particular regional population serves to minimize political, cultural, and economic variance noted between larger regions in the United States (Rentfrow, et al., 2013). The current study's county government population is in US Pacific Northwest. This area has been characterized by a notable distinction in geographic, cultural, and economic integration (Gastil, 1973) consisting of Washington State (39 counties), Oregon (36), and Idaho (44). Of the combined 119 counties, CEDS documents were available for 91 of them.

Rurality

The focus level of this study is on the differences between rural and non-rural regions and the strategic framing they deploy in decision making. Typical typologies between rural and metro regions differences converge on their definitions of metro, leaving categorization of rural regions primarily to be by the feature that they are not metro areas. Rural areas vary by geography, isolation, agriculture, or resource extraction-based economies, small towns, low population densities (Hart et al., 2005). Rural typologies tend to incorporate either or a combination of 1) Settlement size, 2) Population Concentration, 3) Access to goods/services (Dabson, 2011). Of these three, our focus is on regions rather than settlement sizes of communities within the region. While access to goods and services may vary, in the U.S. context, technology is widely available, and particularly in the Pacific Northwest States, regional access to these services would reflect in the variable of home value. For our purpose, degree of rurality of a region is

population density, as calculated by the U.S. Census. This is consistent with previous examinations of regional innovation and technology (Barkely, et al., 2006; Dabson, 2011).

Human Capital

Human capital is based on the experience, expertise, and training of the individuals of a region or enterprise. For the purposes of economic growth, particular emphasis is placed on technology, innovation, and age. For this study, we used an index from StatsAmerica, which combined statistics available from the U.S. Census to a factor labelled as "Human Capital and Knowledge Creation". The factors include high school attainment, "Salad Days Growth" of population aged between 25-44, levels of higher education, STEM Degree Creation, and High-Tech Industry Employment Share.

Relative Wealth

Many studies use average or median wage as an indicator of regional prosperity. This presents a challenge, as the typical sources of information are each respective state's labor economist, whose practices do not include tracking data regarding farm workers or self-employed labor. For this study, the focal issue is the relative wealth of the regional communities, particularly in the face of turbulence which could be framed as an opportunity or threat depending on the wealth of the underlying regional members. Household wealth has been used as a proxy for personal and community wealth by entrepreneurship researchers. Home value was a strong proxy for household wealth in China, and the only factor of three with significant predictive relationship to other variables (Lam et al, 2020). Home value strongly correlated with health (Connelly, et al. 2009), and has significant impacts on entrepreneurship (Liu & Zhang, 2021). For entrepreneurship, home equity acts both as an indicator of wealth in general, and as a store of equity that can be leveraged in the form of credit (Corradin & Popov, 2016). For this study, we used 2021 home value data from StatsAmerica.

Representation of Dynamic Capabilities

We constructed strategic frames from "Comprehensive Economic Development Strategy" documents (CEDS). For counties, townships or boroughs (depending on a state's regional division system) wishing to subsequently request funding from the US Department of Commerce, through the Economic Development Agency (EDA), they must form an Economic Development District (EDD), consisting of key government or private stakeholders representing the region, itself consisting of two or more regions and complete the EDA CEDS review and approval process. Of the 119 counties in the Pacific Northwest regional state, 91 are members of an EDD, making for a total of 28 EDD's for our sample. To test our hypothesis, we used the documents from each of the EDD's referred to as CEDS documents. CEDS consist of four parts, 1) summary background, 2) SWOT analysis, 3) Strategic direction/action plan, and 4) Evaluation Framework. This structure possesses a strategic planning framework involving a relatively standardized format amenable for comparison of regional differences in strategic planning components.

The planning process typically involves an internal/external analysis of strengths, weaknesses, opportunities and threats, where a mixture of general public and relevant industry/government community members identify key issues in each of the four categories. Similarly, the strategies are developed ether through public, or public representative discourse. These documents, once reviewed and approved by the EDA, are used by the EDA to evaluate Federal Funding requests by the respective EDD communities which relate specifically to those concepts identified in the CEDS document. As such, the strategies, and the evaluation frameworks are given significant care in being developed by the EDD members as they have monetary impacts on future strategic initiatives by their regions.

Similar to strategic research in other areas (Fiol, 1994; Barr et al. 1992), Content analysis was performed on the strategic documents by three Strategy/Business Development professors. Following Stone (1997),

and Roberts (1966), we define the magnitude of collective strategy framing through the presence and frequency of particular concepts and related concepts of interest.

Derived from the sensing and seizing framework, we constructed dictionaries and cognates representative of each of the two elements, based off of survey elements from Kump et al.'s (2019) scale. Sensing is a strategic sensing activity, necessarily externally focused. It also has either a focus on anticipating future trends, exploiting external contingencies, or pursuing innovative and technological opportunities (Teece, 2014). Given the external scanning activity of sensing, we used the CEDS SWOT sections to identify Sensing activities. Each entry satisfying the criteria was counted. The total was divided by the total entries of the CEDS SWOT analysis. In a similar process, strategies were identified as action implementations of the sensing components identified in the SWOT. Given that seizing involves sensing and capturing the opportunities of the sensed phenomena, strategies surrounding technology, innovation, or environmental changes, which were not related to a corresponding sensing component were not counted. Total seize strategies were divided by total strategies of the CEDS.

The coding was done manually. An initial round of six CEDS were used to calibrate coding definitions between coders. Iterations of coding on the documents by the coders were performed until threshold of .90 agreement was achieved. Coding on the remaining documents was performed. Discrepancies between coders in the final round was resolved through discussion (Weber, 1990).

DATA ANALYSIS AND RESULTS

This study is examining three factors' effects on two components of Dynamic Capabilities Theory, Sensing and Seizing. A regression including the control variable was performed using the three-factor model for each of the two components. Table 1 provides descriptive statistics of the variables.

Table 1: *Descriptive Statistics and Correlations for All Variables*

	Variable	Min	Max	Mean	SD	Correlations				
						1	2	3	4	5
1	Ratio: D.C: Sensing	0.00	0.486	0.238	0.0603					
2	Ratio: D.C: Seizing	0.00	0.532	0.283	0.0829	.656**				
3	Rurality	0.58	1517	73.4	200.6	-.393**	-.667**			
4	Relative Wealth	$86,111	$384,970	$153,890	$53,229	.486**	.564**	-.438**		
5	Med Household Income	$43,468	$110,351	$63,553	$11,501	.501**	.674**	-.560**	.724**	
6	Human Capital	75.1	171.1	123.9	21.7	.324**	.392**	-.348**	.530**	.463**

Note: All tests are two tailed: N = 91 **Significant at the 0.01 level

A regression was conducted with all hypothesized variables on the Sensing variable (Table 2). Rurality, and Relative Wealth were both significant at the $p < .001$ level, where Rurality was negatively related to D.C. Sensing, supporting Hypotheses 1a. Relative Wealth and Human Capital positive revealed no relationships to D.C. Sensing, showing Hypotheses 2a and 3a had no support. The complete model showed an adjusted R Square of .564. The regression model yielded an F statistic of 30.22, $p < .001$.

Table 2: *Full Model: Dynamic Capabilities: Sensing*

	Independent Variable	Unstandardized Coefficients		Standardized Coefficients		
		B	Standard Error	Beta	t	Sig
1	Rurality	-1.232E-6	.00025	-.411	-4.86	<.001

2	Relative Wealth	1.386E-7	1.215E-7	.121	1.141	.257
3	Med Household Income	1.758E-6	5.61E-7	.344	3.13	.002
4	Human Capital	6.899E-5	.00231	.025	.299	.766

Note: All tests are two tailed: N = 91 **Significant at the 0.01 level

A second regression was performed with all hypothesized variables on the Seizing Variable (Table 3). Rurality revealed a negative relationship with D.C. Seizing, which was significant at the $p < .1$ level. Relative Wealth revealed no significant relationship. Human Capital was also not significant ($p = .766$). The complete model showed an adjusted R Square of .263. The regression model yielded an F statistic of 9.03, $p < .001$. Hypotheses 1b was supported. Hypothesis 2b and 3b had no support.

Table 3: *Full Model: Dynamic Capabilities: Seizing*

		Unstandardized Coefficients		Standardized Coefficients		
	Independent Variable	B	Standard Error	Beta	t	Sig
1	Rurality	-7.61E-5	4.55E-5	-.186	-1.692	.094
2	Relative Wealth	2.82E-7	2.17E-7	.179	1.298	.198
3	Med Household Income	2.03E-6	1.003E-6	.289	2.02	.047
4	Human Capital	1.297E-5	4.13E-4	-.034	-.314	.754

Note: All tests are two tailed: N = 91 **Significant at the 0.01 level

DISCUSSION AND CONCLUSION

The results of this study bring attention to not only the propensity for incorporating dynamic capabilities into the strategy crafting in regional strategic planning, but also the prevalence of the precursor stage of recognizing external phenomena affording opportunities for leverage in a region. Rural regions, which tend to be less densely populated, recognize fewer external trends, have lower levels of technology awareness, and demonstrate lower likelihood of identifying specific opportunities to build their strategies than metropolitan areas. Interestingly, Median Household income yielded positive results to dynamic capabilities thinking, but Relative Wealth did not. While this may suggest collinearity, both shared relatively high Beta values. This may be an issue of the relatively small sample size. Another avenue of investigation is that this suggests an emergent model of framing issues where a perception of scarcity leads to control focused interpretative frameworks with an emphasis on efficiency and better implementation of current strategies (Staw et al. 1981). Organizational decision making in contexts where the participant perceive a threat environment will frame external issues in terms of control focusing attention and the locus of change on internal factors which they control rather than on external phenomena (Chattopadhyay, et al. 2001).

Threat rigidity has promising implications for regional strategic context with respect to dynamic capabilities. Strategic decision makers in community and county governments facing challenges typical of rural regions, focusing on efficiency and domain defense rather than the development of new markets and opportunities through unique technology adoption is a focus on ordinary capability rather than dynamic capability development. In a political, economic, social, and technological environment of increasing change, this may be an important source of the increasing loss of economic development in rural regions.

For some time, cluster thinking has been prescribed as an approach for rural development, where regions are encouraged to partner with nearby metro areas or non-metro technical industries towards expanding the activities beyond the metro (Cortright, 2006; Porter, Mills, et al. 2008; Rosenfeld, 2009). Clearly this has

not been widely adopted as a strategy, and none of the CEDS documents in this study revealed this as a strategy. This leads us to ponder whether, in a limited resource environment, EDD organizations may have concluded that the application of cluster thinking to economic development strategies in rural communities is seen as an ineffective use of resources in comparison to other approaches.

Given the nature of this study as a pilot investigation towards examination of dynamic capabilities in regional strategy crafting, one limitation is the small sample size. This study focused on the Pacific Northwest as a window for insights in this particular region. Even with the lower sample size, the results were significant, demonstrating both hypothesized relationships between rural characteristics and dynamic capabilities, but also the ability to observe strategic styles across public institutional settings. Another limitation is that the representation of CEDS documentation for this region were not uniform. We were able to analyze CEDS from 91 of the 119 counties in the region. Most of the missing counties were from Washington State and a few from Idaho. Future studies incorporating states from the non-Western U.S. will provide more uniform representation of their regions in that most other states have 90% - 100% EDD regions for their counties, almost all of which submit CEDS to the Economic Development Administration.

The potential for further investigations involving prescriptive inquiry is significant. In the authors' interactions across various CEDS-related community groups, anecdotal evidence, in combination with the results herein, suggests a variety of current and future research opportunities. Differences in perspectives emerge with possible linkages to community context, individual and group experience, power distance factors, and of course competing interests. These opportunities for research include:

- The degree to which dynamic capabilities as listed in the CEDS document are representative of the actual DC capabilities of the community
- The degree to which various approaches, such as DC and cluster thinking, are considered and either applied or refuted
- Whether and to what extent EDD entities see themselves as causal mechanisms, akin to a sub tier relationship in a supply chain
- The degree to which EDD activities proactively seek DC-specific input from high-potential entities within their districts
- The relative success of CEDS planning and implementation over time as it relates to the presence of dynamic capabilities which later lead to transforming and deliberate outcomes
- The degree to which composition of an EDD, with regard to roles and responsibilities among EDD members, and the delegation of responsibilities, relates to the presence of dynamic capabilities
- The degree to which human capital factors are impactful at a more granular DC level

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