An Exploration of Regional Apparel Production Industry Network Development

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Statement of the Problem. The movement of apparel and soft goods manufacturing to overseas resulted in US apparel production industries having limited systems of knowledge transfer and sharing resources in reshoring of production (Fitzgerald, 2018). Networks provide a natural organizing concept to examine this problem. A network is defined by a set of individuals or institutions connected through a set of links which are also known as ties (Henry & Vollan, 2014). Network structures can explain the degree to which knowledge sharing occurs among experts within industries or in unidirectional flows from organizations that generate knowledge to organizations that use knowledge. Communication and trust are key concepts in social capital theory suggested as preconditions for sharing of knowledge and building ties (Portes, 1998). Linkages or ties are crucial for adaptive risk management because they allow for access to information and help better manage uncertainty. This pragmatic approach explores the development of an apparel manufacturing network as boundaries shift as to whom is involved and how individuals alter the network structure through dynamic creation or deletion of ties.

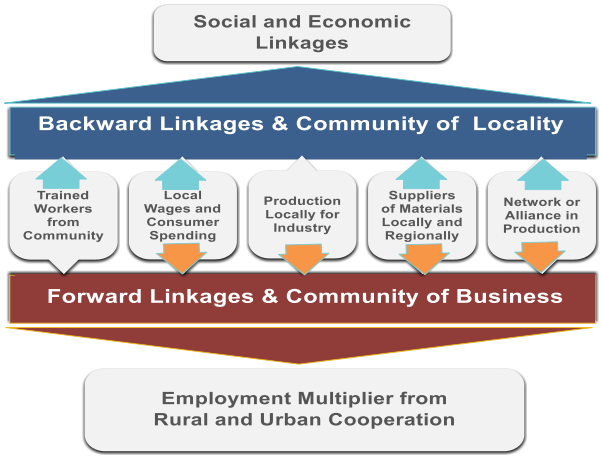
Related Literature and Research Questions. This self-organizing network under study has evolved as regional entrepreneurs, businesses, and communities, sought positions that enhanced their own well-being. Research suggests that individuals seek ties with more knowledgeable individuals or groups, as modeled in classic preferential attachment (Barabasi & Albert, 1999). Bridging ties provide innovation, whereas bonding ties provide integration capacity that complements bridging ties (Tiwaha, 2008). Pertinent to the study of apparel production are the linkages that exist along the industry supply chain enabling the movement of goods and services to and from the apparel producers. Backward linkages of the firm to the community of locality (bonding ties) are predicted to influence the firm's development and network role. Forward linkages of the firm to the industry or the community of businesses (bridging ties) are considered vital for firm success and are also predicted to influence the firm's development as well as its role in the network. Firm success and network engagement enhances employment opportunities in rural and urban communities in the supply chain. We address three research questions:

RQ1*: How do backward and forward linkages influence outcomes?*
RQ2: *How do networks form ties within the community of locality and across communities of business?*
RQ3: *How do institutions shape self-organized networks?*

Methods. The study was initiated in 2014 and spans four years of data collection. Qualitative research methods were used in the form of interviews, observation, and examining of organizational documents. Participants included apparel manufacturing investors/owners,

production managers and workers, product development entrepreneurs, key national manufacturing executives, equipment and raw material suppliers, education/training providers, manufacture publishing, community development and leaders in state government, and nonprofit agencies. One recognized limitation results from the small number of multiple informants per industry sector. Our data collection strategy was to explore a wide range of firms involved in this regional network development and to revisit with respondents multiple times over the four year period providing longitudinal data into the microprocesses of knowledge sharing and integration.

Figure 1. Model of Linkages



Results. In addressing RQ1, prior research has indicated that each industry has backward linkages to economic sectors that supply the materials needed for production, and each industry has forward linkages to the economic sectors, such as community and region, where industry workers spend their income (Bivens, 2019). The linkages found in this research are illustrated in Figure 1. Apparel production firm J failed to survive in a rural community partly explained by the single owner's failure to hire a manager from the community of locality with pattern-making ability, and failure to build linkages to a nearby apparel production businesses. This second apparel business W, launched by local rural community investors and now owned by a community member with pattern-making skills, has been successful in hiring of local workers and in building linkages with urban entrepreneurs desiring small batch production. In response to RQ2, it was apparent that firm J held bonding ties with community members while bridging ties with industry remained underdeveloped. There were examples of communication between firms J and W, though firm J could not provide the designs or patterns needed to meet industry requirements and eventually did not receive sufficient orders to retain workers. On a larger scale, network ties were developed through regional annual meetings involving individuals who operated or sought regional apparel production. Communications, initiated from the annual event, resulted in sharing of knowledge. Though the network is evolving, RQ3 can be addressed from the perspective of four years of continued study. The institutions involved in the shaping of this network are varied in social and economic focus thus the scope of network membership and linkages are transforming.

Implications and Future Research. Prior research suggests industrial clusters of proximity will facilitate development of cooperative alliances; however, we found the common interest in advancement of reshoring production has generated rural/urban alliances and enhanced well-being. We continue to examine the social and economic benefits of networking.

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