

A Mixed Method Exploration of Building Network Ties in the Apparel Industry

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Statement of the Problem. Small-sized apparel manufacturing businesses (AMBs) who operate apparel design, development, and production businesses often experience inadequate knowledge in navigating the complex and rapidly changing apparel industry. Pertinent to the study of AMBs are the linkages that exist along the industry supply chain enabling the movement of knowledge to and from the AMBs. Knowledge in high-technology sectors must be continually replenished (Lane & Lubatkin, 1998). From the knowledge-based view of the firm, Kogut and Zander (1992) posited that social capital was critical for knowledge and business success competencies.

Related Literature and Research Questions. We examine interorganizational learning through the role of absorptive capacity which is defined as, "... a firm's ability to value, assimilate, and utilize new external knowledge" (Lane & Lubatkin, 1998, p. 461). Cohen and Levinthal (1990) considered absorptive capacity as the adeptness a firm acquires over time due to the accumulation of a relevant base of knowledge. Building upon social capital and knowledgebased theories, Yli-Renko et al., (2001) proposed that social capital, such as social interaction and network tie dimensions, are associated with acquiring knowledge in young technology-based firms. Network theory posits that the network is defined by a set of individuals or institutions who are connected through a set of links also known as network ties (Henry & Volla, 2014). Key concepts in social capital theory suggest that social interactions and people-oriented organizational cultures can be preconditions for sharing of knowledge and building ties (YliRenko et. al., 2001). This mixed method exploration sought to address the research question: Is external knowledge available, and if so, do aspects of social capital play a role in the process?

Methods. To address the research question, a mixed method approach was designed to explore perceptions of knowledge sharing by small-sized Colorado-based AMBs. Study 1 involved a qualitative investigation followed by Study 2 involving a quantitative approach. Study 1: Interviews, observations and examination of organizational documents were conducted with Colorado AMBs from 2014-2018. We collected data through face-to-face and telephone interviews, minutes from meetings, and interactions occurring among business owners at four Annual Apparel Summit events. Participants included AMB 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. Our multi-informant data collection strategy was to explore a wide range of firms and to revisit respondents multiple times providing insights into the microprocesses of knowledge absorption and relationship building in our exploration of small-sized AMBs. Inter-rater reliability of document coding was established at 84.5% and Nvivo 12 was then used in the analysis of the 35 documents. A word count generated in Nvivo displayed the concept of 'know, knowing or

knowledge' as the most prevalent wording expressed across the data totaling 1,575 references. Findings suggested: 1.) low levels of knowledge sharing, and 2.) challenges in learning aspects of the industry; thus, prompting further inquiry using a quantitative approach.

Study 2: Based upon theorized relationships and findings from the qualitative study, three hypotheses were developed for quantitative study and data was collected via an online survey using Qualtrics in 2019.

H1: A business' level of absorptive capacity for knowledge will have a positive effect on their level networking ties.

H2: A business' level of social interaction will have a positive effect on their level of networking ties.

H3: A business' level of a people-oriented culture will have a positive effect on their level of networking ties.

The survey was developed, pretested, and administered to a convenience sample consisting of all small-sized Colorado businesses involved in apparel production who had attended an Annual Apparel Summit event. The survey was IRB approved, and was comprised of items that were formatted as 7-point Likert-type scales, categorical, and open-ended formats. Scale items were borrowed or modified from existing studies involving: social interaction consisting of 2 items ($r = .65$), modified from Yli-Renko et al. (2001); people-oriented organizational culture consisting of 3 items ($\alpha = .85$), modified from Deshpande et al., (1993); absorptive capacity 4 items ($\alpha = .67$), based upon Cohen and Levinthal (1990); and networking ties consisting of 10 items ($\alpha = .79$), based on work by Teece (1992) and Yli-Renko et al., (2001). An e-mail was first sent to the sample population requesting participation in the on-line survey to better understand the range of opportunities and challenges experienced by a variety of firms involved in production of fashion, outdoor, and sewn products and service. Three attempts were made to secure responses (Dillman et al., 2009). Given some of the e-mail address were no longer valid as individuals left or closed the business, there were 170 possible valid responses. A total of 48 responses generated completed responses for a 28% response rate. One recognized limitation resulted from the small number of informants; however, for our exploratory purposes a response rate near 24.5% is considered average for online survey responses (FluidSurveys Team, 2014).

Results. The average respondent could be described as the owner of the entrepreneurial business, that was in the growth phase and had been operating since 2010. The majority of the owners were females with an average age of 49 years old, held B.S. degrees, and had prior experience in the business before launching their own. An analysis was conducted using stepwise multiple regression in SPSS 26 with absorptive capacity ($M=5.67$), social interaction ($M=4.97$), and people-oriented organizational culture ($M=5.28$) as independent variables, and network ties ($M=5.11$) as the dependent variable. Correlations between the independent variables were not significant. An adjusted $R^2 = .733$ was found with R^2 change contributions of absorptive capacity .460, social interaction .251, and people-oriented culture .044. All independent variables entered the equation as significant ($p > .05$). Multicollinearity statistic were run using all the regression variables yielding a tolerance level between .869 and .941; thus, multicollinearity was not a problem in the data (Hair et al., 2014). A three-way interaction effect among the independent variables was not evident but merits supplementary study. These exploratory results

suggest that all three hypotheses were supported in that the businesses' absorptive capacity of knowledge, social interaction, and people-oriented culture explained AMBs' building of networking ties.

Implications and Future Research. Empirical validation is necessary with a new sample drawn from the national population of AMBs. Further qualitative exploration of lack of knowledge sharing among firms warrants further exploration. Findings will provide pragmatic solutions to new and existing small apparel manufacturing business conditions.

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