

## ARTICLE

# The Use of Social Media and Peer Networking in Tourism Microentrepreneurship

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The use of social media has become ubiquitous these days. Its usage can support nature-based tourism microentrepreneurship and shape business outcomes by allowing greater visibility and connections with potential customers. Small-scale businesses often lack the time or infrastructure to collaborate with similar businesses. However, the creation of peer network is equally crucial in maximizing business outcomes through information exchange. This study explored the usage of social media platforms among wildlife tourism microentrepreneurs. It also examined local business networks through in-person structured interviews with thirty-seven wildlife tourism microentrepreneurs from the east coast of North Carolina. Findings suggest that wildlife tourism microentrepreneurs utilize various forms of social media platforms while developing a support network with similar businesses. These findings may help local tourism agencies and extension professionals to devise strategies to support rural livelihoods by understanding rural tourism microentrepreneurship.

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## Introduction

Nature-based tourism programs are important for strengthening and diversifying rural economies by creating employment opportunities while reinforcing connections between local communities and natural resources for conservation purposes (Borisova, Bi, Larkin, & Longanecker, 2016). Marketing

an area's natural resources, such as wildlife, is a way to diversify the economic base of a rural area (Hondadle, 1990). Wildlife tourism as a form of nature-based tourism is ever expanding, making it an increasingly viable livelihood strategy in the form of tourism microentrepreneurship (KC, Morais, Peterson, Seekamp, & Smith, 2017). However, potential contributions of

wildlife tourism to the economic wellbeing of rural communities require effective marketing strategies and information sources to optimize business outcomes. There has been limited research on social media usage and peer networking as marketing strategies in tourism microentrepreneurship.

Tourism entrepreneurs often use social media platforms to meet their marketing needs, especially in rural tourism settings, as the visibility of the services they offer is critical. Social media can have a direct impact on consumer attitudes and decision-making, it helps increase the number of customers, enhance relationships with customers, and reach out to customers on a global scale (Jones, Borgman, & Ulusoy, 2015). Networking and information gathering via social media such as Facebook also enable extension professionals to promote rural tourism entrepreneurship by sharing educational information, marketing extension programs and improving their communication with target audiences. (Mains, Jenkins-Howard, & Stephenson, 2013).

Although marketing becomes easier with social media, solely depending on it as a marketing option may not be sufficient to achieve business success in a competitive entrepreneurial environment. Therefore, the creation of social networks with peer businesses can help to capitalize on existing resources. There are many advantages of collaboration. KC, Morais, Seekamp, Smith, and Peterson (2018) suggested that resources exchanged with peers are in-situ characteristics, and these

resources can be different from resources received from external agencies such as chambers of commerce, destination marketing organizations, resource management agencies, or cooperative extensions. Small businesses often understand the value of collaboration with other small businesses. However, in rural areas, they can be very sparsely located and may lack the time or infrastructure to implement collaborative efforts (Jones et al., 2015). There is always some risk and uncertainty involved with wildlife tourism businesses (KC et al., 2018). Entrepreneurs often seek legitimacy to reduce unexpected risk by developing a connection with well-regarded individuals in the network (Taormina & Lao, 2007). This study examines how wildlife tourism microentrepreneurs utilize different forms of social media, as well as their local business network as they endeavor to optimize their business outcomes.

## **Methods**

### *The Setting*

North Carolina is known for its rich nature-based tourism opportunities, with the coastal region being a popular tourism hot-spot. Further, North Carolina promotes the localization of benefits from the tourism industry to improve rural livelihoods. The North Carolina Job Plan (2013) is a ten-year strategic plan that prioritizes the promotion of micro-enterprises and entrepreneurship in marketing rich natural resources to empower rural communities. According to the U.S. Fish and Wildlife Service (2011),

there were approximately 3.5 million people (16 years old and older) enjoying wildlife-related activities in 2011, which contributed about US\$3.3 billion to the state's economy.

This study was carried out in the Pamlico Sound Region of North Carolina. The Pamlico Sound is the largest lagoon along the east coast of the United States, and it is popularly known as the fishing gem of North Carolina (Settlage, 2012). The region provides many wildlife tourism opportunities for tourists, including sightseeing tours, wildlife photography, dolphin and whale watching tours, fishing, and hunting. Wildlife tourism businesses in the region offer tourism experiences including but not limited to sunset/moonlight cruises or moonlight kayaking along the Pamlico River, and charter boat guides that offer half-day/full-day fishing and hunting trips. In this study, all the wildlife tourism businesses (i.e., recreational fishing, hunting, and wildlife viewing) were independently managed by a single owner or were family owned, with less than five full-time and part-time non-family employees (KC, 2015).

### ***Data Collection and Analysis***

Initially, multiple field trips were conducted from May through August 2014. Informal meetings were held with key informants in the region, including people working at the wildlife refuges and local museum, cooperative extension agents, and local bait and tackle shop owners. These field trips helped to create a list of study participants to start the data

collection process through in-person structured interviews. Later, a chain referral process (Biernacki & Waldorf, 1981) was utilized to identify and saturate the local wildlife tourism business network. Data were collected from November 2014 to February 2015.

The survey instrument included a list of social media platforms used for marketing, along with open-ended questions (i.e., *How important are these social media tools in the marketing of your business? What type of information do you share with members of a wildlife-related business network?*). Study participants were also asked to list any forms of support they receive from the wildlife tourism business network (e.g., marketing and advertising, information sharing, product support, etc.). Additionally, demographic data were collected on job status, length of business establishment, income, gender, and education. Descriptive field notes were developed during the interviews.

Thirty-seven wildlife tourism microentrepreneurs involved in guiding trips for recreational fishing, hunting, and wildlife watching, were interviewed. Other than descriptive data on social media usage, UCINET, a social network analysis software (Borgatti, Everett, & Freeman, 2002), was used for data analysis. Descriptive field notes for open-ended questions on social media did not involve rigorous qualitative analysis except to understand participants' general perceptions of social media as a marketing tool.

**Results and Discussion**

*Demographic Profile*

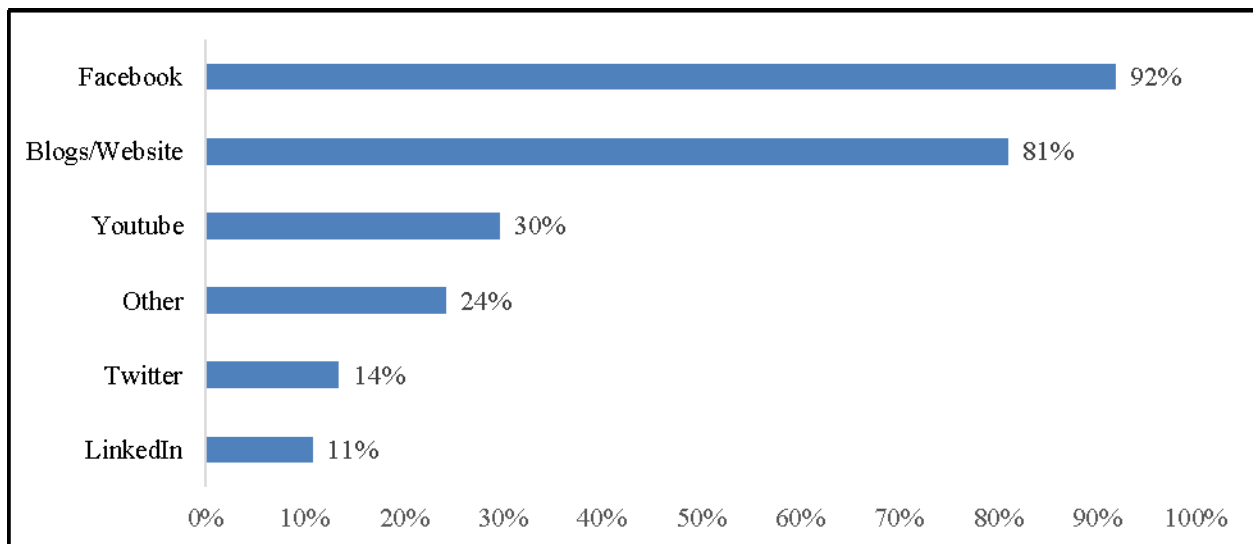
The majority (78%) of microentrepreneurs worked full-time, with only 22% working part-time. The length of business establishment ranged from 6 months to 36 years. The age of the study participants ranged from 27 to 75 years, with an average of 50 years. Only one participant was female. The educational background of the participants varied, with 8% possessing a high school degree, 33% with some college with no degree, 17% with an associate’s degree, 28% with a bachelor’s degree, and 14% with a graduate or professional degree. The lowest annual household income category was \$15,000-\$24,999 (7%), with the dominant category being \$50,000-\$74,999 (33%), and the highest income category being \$100,000-\$149,999 (13%).

Microentrepreneurs were likely to engage in more than one form of wildlife tourism (e.g., recreational fishing and hunting, recreational fishing and wildlife viewing, recreational fishing, hunting, and wildlife viewing). Microentrepreneurs were relying on wildlife tourism business partially as well as for complete livelihood dependence. They received from 5% to 100% of their income from the wildlife tourism business, with an average of 55%.

*Use of Social Media Platforms*

The majority of the microentrepreneurs (97%) reported using some form of social media platform. Facebook was the most used (92%) social media platform whereas Blogs/Websites (81%) and YouTube (30%) were frequently utilized social media platforms (Figure 1).

**Figure 1: The use of social media platforms among wildlife tourism microentrepreneurs**



\*Other includes platforms like Coastal Magazine (e.g., Fisherman Post), Instagram, Trip Advisor, Yelp, and People-First Tourism

In general, social media platforms were used as a medium to connect with existing and potential customers. Social media usage was perceived to bring visibility to their tourism services, with some wildlife tourism microentrepreneurs reporting having received clients from outside of the United States as well. For many, visibility was the major reason for using Facebook. For example, one microentrepreneur stated, "It is helpful in showing your ability and setting you apart from other business to say-hey, this is what I offer." Likewise, another microentrepreneur mentioned, "Social media helps to bring people in the network who are interested in what I do and also to follow up with the people in the network."

A significant number of customers were reported to receive through social media platforms. For instance, one microentrepreneur stated, "Social media brings visibility to what I do, people call and book trips. 80% of the trips come from social media." Likewise, Facebook was mentioned to be a tremendous help to drive the business and being a source of credibility since microentrepreneurs used to post pictures regularly to reach out to their customers and maintain a connection with them. These findings are similar to the previous study by Jones et al. (2015). The results of that study indicated that small businesses reflected the positive influence of social media through increased inquiries and bookings. Furthermore, maintaining a web presence was found to play an important role in increasing sales and creating repeat sales (Jones et al., 2015). However,

microentrepreneurs also reported word of mouth advertisement as an important driving force for their businesses. Specifically, one microentrepreneur mentioned to recognize social media as helpful but acknowledged that word of mouth advertisement was more important to drive the business. He further added, "Customers are a cumulative effect of everything, i.e., social media and word of mouth advertisement." Therefore, social media seems to play an important role in their businesses by allowing microentrepreneurs to connect with new customers while maintaining relationships with old customers. However, word of mouth advertisement also seemed to help these businesses find new customers.

The findings also suggest that the extent of social media usage varies based on demographic (i.e., age) and economic variables (i.e., household and wildlife tourism-based incomes). For example, respondents were generally older adults, but relatively younger microentrepreneurs made greater use of social media platforms compared to older microentrepreneurs (Table 1). Likewise, microentrepreneurs in the lower household income category utilized fewer social media platforms compared to those in higher household income categories. Surprisingly, microentrepreneurs with 100% of their income coming from the wildlife tourism business utilized fewer social media platforms compared to those receiving up to 80% of their income from the wildlife tourism business. It is important to note that the percentage of income from the wildlife tourism business does not

correspond to household income. For example, microentrepreneurs with 100% of their income coming from the wildlife tourism business sometimes had a household income of \$15,000-\$24,999. Therefore, greater dependence on the wildlife tourism business does not necessarily correspond with higher incomes. Based on these findings, we can argue that microentrepreneurs with a higher level of dependence on the wildlife tourism business should be able to utilize multiple and appropriate social media platforms.

The concept of social media usage among tourism microentrepreneurs may not be unique and interesting. However, so far, the use of social media platforms among wildlife tourism businesses has not been explored. Specifically, wildlife tourism is characterized by rurality, and it is interesting as well as necessary to understand the role of social media platforms in promoting these forms of rural tourism microentrepreneurship. Furthermore, their affiliation is mostly perceived as passion-based where Ateljevic and Doorne (2000) suggested that tourism entrepreneurs may not be solely driven by economic motives but non-economic motives as well. Tourism entrepreneurs are often perceived as lifestyle entrepreneurs, nature-based and wildlife tourism entrepreneurs even more so. It is important to understand that these microentrepreneurs seem to utilize social media platforms to pursue their careers, and wildlife tourism businesses would

allow them to move beyond their individual passion to a more dependable livelihood strategy. Findings also showed that about 22% of the microentrepreneurs were completely reliant on income received from the wildlife tourism business for sustaining their livelihoods. Therefore, social media can play a major role in redefining the pursuance of the entrepreneurial process in rural tourism entrepreneurship. Jones et al. (2015) suggested that the use of social media is cost effective as it overcomes limitations such as the lack of time and financial resources. Jones et al. (2015) also noted that the use of social media among small businesses is still in a primitive phase. Therefore, social media usage among small businesses needs to be explored further.

#### *Wildlife Tourism Peer Network*

The purpose of the study was also to examine the local business support network. Support could be received in any form. For example, types of support received through the peer network included information sharing, customer exchange, and product support (support received specifically from bait and tackle shops through discounted products). The peer network was established to exchange multiple forms of support. These forms of support were reported to play a critical role in reciprocating with other fishing, hunting, and eco-tour guides. Customer exchange was a common practice among fishing and hunting guides, as they

**Table 1: Demographic and economic variables of the microentrepreneurs and their extent of social media platform usage**

Age (Years)	Frequency	Extent of Social Media Platforms Usage
≤ 40	24.32%	3.33
41-60	64.86%	2.29
>60	10.81%	2.00
<b>Income (Household)</b>		
\$15,000-\$34,999	13.33%	2.00
\$35,000-\$74,999	56.67%	2.41
\$75,000-\$149,999	30.00%	2.89
<b>Income (Wildlife Tourism-Based)</b>		
≤ 40%	37.84%	2.36
41-80%	40.54%	3.07
81-100%	21.62%	1.75

frequently swapped their customers when the demand for fishing and hunting trips outnumbered their capacity. Information was reported to share regarding the location of fish, type of bait used (for fishing), or movement of waterfowl (for hunting). This information was critical to providing clients with an enriching experience and had a pronounced effect on the success of fishing and hunting guides.

Network measures for this study include degree centrality<sup>1</sup>, eigenvector

<sup>1</sup> **Degree Centrality** indicates the number of immediate connections (i.e., network ties) for an individual member, with a higher degree centrality value indicating a more central member of the network (Prell, 2011). An individual network member with high degree centrality can be identified using different terms such as popular/prominent, influential, independent, powerful, leader, etc. (Borgatti, Everett, & Johnson, 2013; Prell, 2011; Ramirez-Sanchez, 2011). However, these terms are not considered inherent properties, but depends on the type of network in which they are embedded (Borgatti, Everett, & Johnson, 2013).

centrality<sup>2</sup>, and density<sup>3</sup>. The average degree centrality is 3.57 (Table 2), with the highest degree centrality of 9 for EID1 indicating it to be a central member of the network (Figure 2). Likewise, the eigenvector centrality measure identifies the central character and considers not only the extent of connection for an

<sup>2</sup> **Eigenvector Centrality** considers an individual as central if connected to those individuals with more connections. This measure is built upon degree centrality where a central actor is one who is connected to others who themselves have high-degree centralities (Prell, 2011). Borgatti, Everett, and Johnson (2013, p.168) state, “We can interpret eigenvector centrality as a measure of popularity in the sense that a node with high eigenvector centrality is connected to nodes that are themselves well connected.”

<sup>3</sup> **Density** refers to the number of ties in a network expressed as a proportion of the maximum possible number of ties (i.e., number of actual direct connections divided by the number of possible direct connections) in a network (Kadushin, 2012; Scott, 2013).

individual but also the extent of connections of other members connected to that individual. For example, if we compare EID25 and EID32, they both have two connections. However, EID32 is connected to EID1 (with a degree centrality of 9) and EID6 (with a degree centrality of 6), whereas EID25 is connected to EID22 (with a degree centrality of 5) and EID33 (with a degree centrality of 3). Therefore, EID32 (with an eigenvector centrality measure of 0.174) is considered more central than EID25 (with an eigenvector centrality measure of 0.039). Both degree centrality and eigenvector centrality measures are helpful in understanding how network members communicate with each other, and who is more influential compared to others. This information is critical in devising a strategy to disseminate important information throughout the network.

The density of the network is 0.132. A value close to 1 indicates a denser network, with a higher density indicating that the network members are well-connected to each other. As Kadushin (2012, p.29) stated, “Other things being equal, the greater the density, the more

likely is a network to be considered a cohesive community, a source of social support, and an effective transmitter.” The density of the network depends upon the type and size of the network under study. Networks are more likely to be dense in a small community (Crowe, 2007; KC et al., 2018); therefore, density is a completely context-dependent variable. While comparing the density of different networks, it is important to consider their size (Kadushin, 2012). The density value is relatively low in this case because connections were considered only if wildlife tourism microentrepreneurs reported having received some form of support. However, a familiarity or acquaintance network would have probably been denser. Therefore, the network and its interpretation determine the density of the network. It is important to understand that well-connected members in higher density networks can be expected to reciprocate more frequently. However, various factors such as trust, reciprocity, and togetherness are expected to influence the connections and information or resources exchanged among network members (KC et al., 2017).

**Table 2: Wildlife tourism microentrepreneurial network measures (Degree Centrality, Eigenvector Centrality, and Density)**

Measure	Mean	Remarks
Degree Centrality	3.57	Min=1, Max=9
Eigenvector Centrality	0.153	Min=0.020, Max=0.449
Density	0.132	Total number of ties=100

\*Note: The calculation of measures excludes isolated microentrepreneurs (i.e., only considers 28 wildlife tourism microentrepreneurs connected to each other).



Figure 2: Peer network among wildlife tourism microentrepreneurs. The size of the node is proportional to the number of connections.

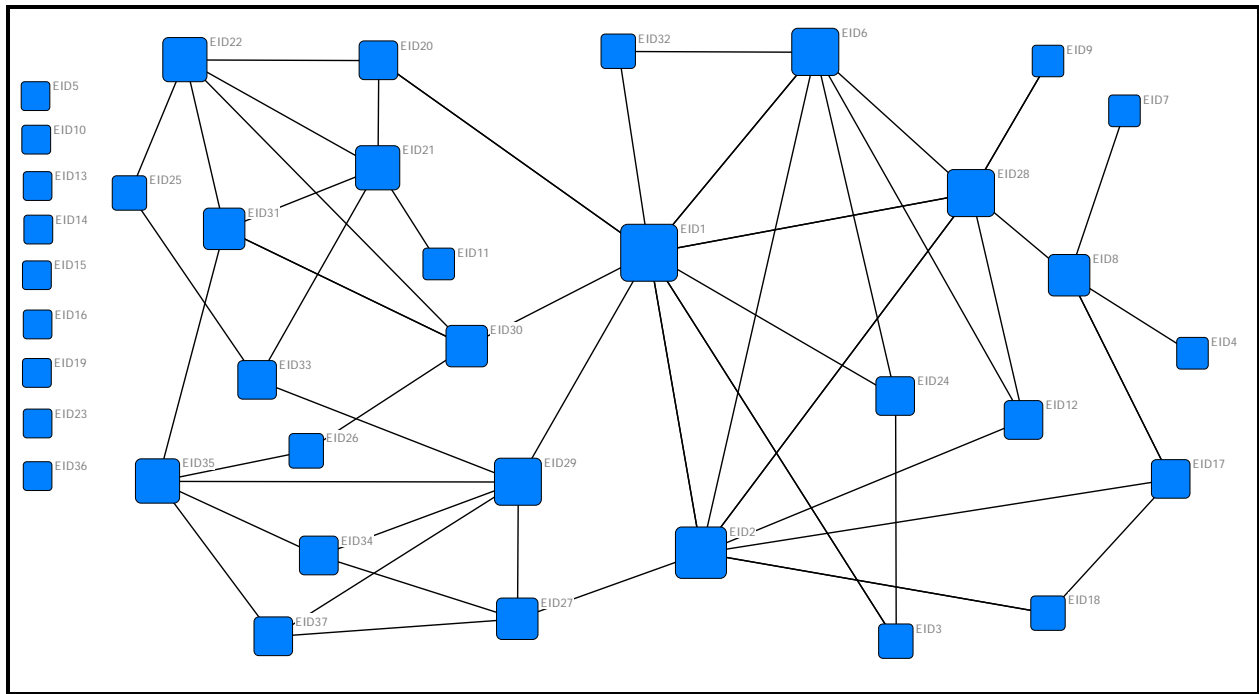


Figure 3: Peer network among wildlife tourism microentrepreneurs. The size of the node is proportional to the income coming from wildlife tourism business.

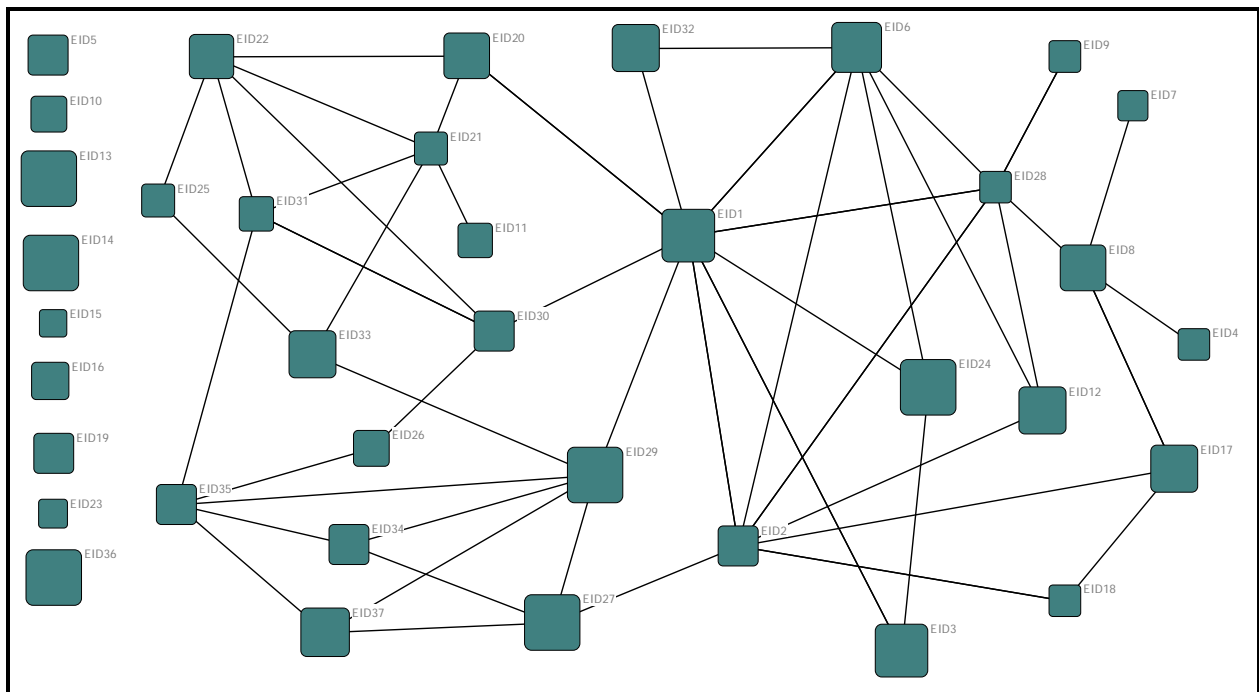


Figure 3 represents the wildlife tourism business network where the size of the node is proportional to the income received exclusively from the wildlife tourism business. Within the network of 28 microentrepreneurs connected to each other, microentrepreneurs receiving a higher proportion of income from wildlife tourism are generally possessing high degree centrality (i.e., more connections). However, it is interesting to see how some isolated microentrepreneurs in the network are completely dependent on the wildlife tourism business for their livelihoods regardless of any support from local peer network. Considering the importance of information sharing and exchange of resources among these microentrepreneurs, it is important to promote peer networking and the use of social media platforms to capture the niche market of wildlife tourism.

### **Conclusions, Implications, & Future Research**

Social media usage among microentrepreneurs indicates their ability to use social media to market their businesses. However, the extent of social media usage varied based on age and income category. Microentrepreneurs receiving highest proportion of income from wildlife tourism were not necessarily using multiple social media platforms. Findings from the study can be useful for extension professionals to promote the use of social media platforms while using different social media platforms to obtain information about the extent of entrepreneurial engagement and as a tool

for communication. Selective social media platforms can be utilized to disseminate information related to extension activities. A microentrepreneurial network indicates their ability to connect with similar businesses to meet their entrepreneurial goals. However, these microentrepreneurs can exchange information through these connections related to policy issues on wildlife rules and regulations as well. Microentrepreneurs receiving more than 80% of their income from wildlife tourism were also disconnected from the local peer network. Understanding network patterns can enhance a related organization's ability to promote connections and information dissemination throughout the network. The purpose of the study was to understand the use of social media platforms and their perceived importance in wildlife tourism businesses. However, in future research, it may be fruitful to try to understand the potential role of social media in the perceived success of wildlife tourism microentrepreneurship or other forms of tourism entrepreneurship. Also, future research should assess if there are any challenges regarding the use of social media platforms as a marketing tool or potential ways to promote the effective use of social media platforms to foster rural tourism entrepreneurship.

The network approach can be used in various contexts, including both large-scale and small-scale entrepreneurial networks. Specifically, tourism planners and extension professionals can promote these forms of rural entrepreneurship by understanding their network patterns. Extension professionals can use a similar

approach to identify networks for agritourism entrepreneurs. Potential influencers such as microentrepreneurs with a high degree centrality or with higher eigenvector centrality can be identified to promote outreach programs and reach out to those microentrepreneurs who are struggling to connect with information sources. Likewise, similar network patterns can be examined to assess affiliation with different public agencies, as these agencies can provide resources different than those offered by similar business networks (KC et al., 2018). Extension professionals and related organizations can utilize the network approach to examine network functions in diverse entrepreneurial contexts to improve communication channels/patterns.

There are alternative ways of understanding and promoting these forms of tourism entrepreneurship. For example, one potential approach to further investigate is to identify SWOT (Strengths, Weaknesses, Opportunities, and Threats) factors to address the needs of these microentrepreneurs more effectively. There are only a few such studies related to tourism entrepreneurship (e.g., Helms, Rodríguez, Lisandro de, & Hargrave, 2011; Lordkipanidze, Brezet, & Backman, 2005). Furthermore, the identification of SWOT factors can be combined with the Analytical Hierarchy Process (AHP) or the Analytic Network Process (ANP). Both SWOT-AHP (KC, Stainback, & Chhetri, 2014; Stainback, Masozera, Mukuralinda, & Dwivedi, 2012) and SWOT-ANP (Catron, Stainback, Dwivedi, & Lhotka,

2013) are common methods of quantitative assessment of SWOT factors through comparison of factors within each category and across the categories. In particular, a SWOT-ANP allows for the evaluation of dependence among categories (Catron et al., 2013). A SWOT-AHP/ANP is still an under-explored methodological tool in tourism entrepreneurship. Besides identification of SWOT factors and quantitative assessment through AHP or ANP, it would be interesting to examine the effectiveness of the peer network in addressing SWOT factors (i.e., whether a peer network helps to eliminate weaknesses and threats or capitalize on strengths and opportunities). However, simply understanding the development of a peer network and its characteristics can assist local tourism agencies, extension professionals, and other related agencies to promote rural tourism entrepreneurship.

## References

- Ateljevic, I., & Doorne, S. (2000). 'Staying within the fence': Lifestyle entrepreneurship in tourism. *Journal of Sustainable Tourism*, 8(5), 378-392.
- Biernacki, P., & Waldorf, D. (1981). Snowball sampling: Problems and techniques of chain referral sampling. *Sociological Methods and Research*, 10(2), 141-163
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). UCINET 6 for Windows: Software for Social Network Analysis. Harvard, MA: Analytic Technologies.

- Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing Social Networks*. Thousand Oaks, CA: Sage Publications.
- Borisova, T., Bi, X., Larkin, S., & Longanecker, J. (2016). Assessing nature-based recreation to support economic development and environmental sustainability extension programs. *Journal of Extension*, 54(5), 5RIB1. Retrieved from <https://joe.org/joe/2016october/rb1.php>
- Catron, J., Stainback, G. A., Dwivedi, P., & Lhotka, J. M. (2013). Bioenergy development in Kentucky: A SWOT-ANP analysis. *Forest Policy and Economics*, 28, 38-43.
- Crowe, J. A. (2007). In search of a happy medium: How the structure of interorganizational networks influence community economic development strategies. *Social Networks*, 29(4), 469-488.
- Helms, M. M., Rodríguez, M. A., Lisandro de, L. R., & Hargrave, W. (2011). Entrepreneurial potential in Argentina: A SWOT analysis. *Competitiveness Review*, 21(3), 269-287.
- Hondadle, B. W. (1990). Extension and Tourism Development. *Journal of Extension*, 28(2), 2FEA1. Retrieved from <https://www.joe.org/joe/1990summer/a1.php>
- Jones, N., Borgman, R., & Ulusoy, E. (2015). Impact of social media on small businesses. *Journal of Small Business and Enterprise Development*, 22(4), 611-632.
- Kadushin, C. (2012). *Understanding Social Networks: Theories, Concepts, and Findings*. New York, NY: Oxford University Press.
- KC, B. (2015). Examining networks, social capital, and social influence among wildlife tourism microentrepreneurs in coastal North Carolina. Doctoral Dissertation, North Carolina State University, USA.
- KC, B., Morais, D. B., Peterson, M. N., Seekamp, E., & Smith, J. W. (2017). Social network analysis of wildlife tourism microentrepreneurial network. *Tourism and Hospitality Research*, 0(0), 1-12.
- KC, B., Morais, D. B., Seekamp, E., Smith, J. W., & Peterson, M. N. (2018). Bonding and bridging forms of social capital in wildlife tourism microentrepreneurship: An application of social network analysis. *Sustainability*, 10(2), 315.
- KC, B., Stainback, G. A., & Chhetri, B. B. K. (2014). Community users' and experts' perspective on community forestry in Nepal: A SWOT-AHP analysis. *Forests, Trees and Livelihoods*, 23(4), 217-231.
- Lordkipanidze, M., Brezet, H., & Backman, M. (2005). The entrepreneurship factor in sustainable tourism development. *Journal of Cleaner Production*, 13(8), 787-798.
- Mains, M., Jenkins-Howard, B., & Stephenson, L. (2013). Effective use of Facebook for extension professionals. *Journal of Extension*, 51(5), 5TOT6. Retrieved from <https://www.joe.org/joe/2013october/tt6.php>
- Morais, D. B., KC, B., Mao, Y., & Mosimane, A. (2015). Wildlife

- conservation through tourism microentrepreneurship among Namibian communities. *Tourism Review International*, 19(1-2), 43-61.
- North Carolina Jobs Plan. (2013). *North Carolina Economic Board: Recommended Strategies for Economic Growth 2014–2015*. Retrieved from [https://www.nccommerce.com/Portals/0/Documents/AboutOurDepartment/BoardsCommissions/NC%20Jobs%20Plan%20Report\\_Final.pdf](https://www.nccommerce.com/Portals/0/Documents/AboutOurDepartment/BoardsCommissions/NC%20Jobs%20Plan%20Report_Final.pdf)
- Prell, C. (2011). Some basic structural characteristics of networks. In Ö. Bodin & C. Prell (Eds.), *Social networks and natural resource management: Uncovering the social fabric of environmental governance* (pp. 29-43). Cambridge, UK: Cambridge University Press.
- Ramirez-Sanchez, S. (2011). Who and how: Engaging well-connected fishers in social networks to improve fisheries management and conservation. In Ö. Bodin & C. Prell (Eds.), *Social networks and natural resource management: Uncovering the social fabric of environmental governance* (pp. 119-146). Cambridge, UK: Cambridge University Press.
- Scott, J. (2013). *Social network analysis*. London: Sage Publications.
- Settlage, S. (2012). The Pamlico Sound: Fishing gem of North Carolina. Retrieved from <http://ncseagrant.ncsu.edu/coastwatch/previous-issues/2012-2/summer-2012/the-pamlico-sound-fishing-gem-of-north-carolina/>
- Stainback, G. A., Masozera, M., Mukuralinda, A., & Dwivedi, P. (2012). Smallholder agroforestry in Rwanda: A SWOT-AHP analysis. *Small-scale Forestry*, 11(3), 285-300.
- Taormina, R. J., & Lao, S. K. (2007). Measuring Chinese entrepreneurial motivation: personality and environmental influences. *International Journal of Entrepreneurial Behavior & Research*, 13(4), 200-221.
- U.S. Fish & Wildlife Service. (2011). *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. Retrieved from <https://www.census.gov/prod/2012pubs/fhw11-nat.pdf>
- Zander, K. K., Austin, B. J., & Garnett, S. T. (2014). Indigenous peoples' interest in wildlife-based enterprises in the northern territory, Australia. *Human Ecology*, 42(1), 115-126.

