Tourism Businesses' Perceptions on Sustainable Practices and Barriers in Coastal North Carolina, USA

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Abstract

The objective of this study was to investigate tourism business owners' and operators' perceptions of sustainable practices which would facilitate the success of their tourism businesses in the long term, as well as their perception of barriers to implementation of these sustainable practices. The study area was the North Carolina coastal counties where tourism is a major economic driver. Data were collected from 90 tourism businesses in 20 coastal counties in North Carolina. The study profiled the tourism business segments using a factor-cluster grouping approach that identified tourism business clusters. Three clusters were identified representing different levels of tourism business owners' and operators' perceptions of sustainable practices: Advocators, Accepters, and Anticipators. Comparative analyses were then conducted among these three groups to profile them based upon perceived barriers that prevent them from implementing sustainable practices. The results showed that prevalent barriers to implementing sustainable techniques were lack of funds, lack of financial incentives, complexity of implementation and cost. These findings could provide informed guidance to tourism entities when considering their sustainable actions, as well as provide data which may influence the role that state tourism officials play in advocating best practices that maintain and present tourism products in a sustainable manner.

Keywords: sustainable practices, tourism businesses, sustainability barriers

1. Introduction

1.1 Introduce the Problem

Tourism is a complex and multifaceted industry that includes a variety of operating sectors such as transportation, accommodations, food service, attractions, entertainment, events, adventure and outdoor recreation. The tourism industry relies heavily on a variety of environmental features and factors, such as abundant and unspoiled natural resources and outstanding recreational settings (Holden, 2008; Nicholls & Kang, 2012). Although tourism has economic and social benefits, it could produce negative externalities if business is not conducted sustainably. Positive, and interdependent, interactions with both the natural and social environments certainly contribute to the success of these sectors. It is therefore critical to reduce those negative externalities to preserve the aesthetic composition and environmental health of the destination. Nonetheless, it is frequently perceived that the tourism industry may have negative impacts on environmental quality, as well as the specific destination settings (Dolnicar, Crouch, & Long 2008).

Researchers, as well as business owners, frequently recognize that the tourism industry should no longer ignore the potential of business-related environmental and socio-cultural impacts. Concerns regarding the "sustainability" of the tourism industry have been increasing since the 1980s (Sirakaya, Ekinci & Kaya, 2008). At the same time, business models focused upon environmentally-sensitive travel continue to increase in the hospitality and tourism industry. As reflected in contemporary market research, leisure travelers are increasingly prioritizing alternatives that reduce their environmental impact (Tierney, Hunt, & Latkova, 2011). To meet this increasing market demand for more sustainable accommodations and attractions, forward-thinking businesses have increasingly focused on reducing their ecological footprint through implementation of sustainable practices, such as energy and water conservation, as well as waste reduction.

Research on sustainable practices has traditionally focused on the manufacturing industry, or on tourism-related businesses in Europe. Very little research exists that focuses on sustainable tourism business in the United States.

Furthermore, even fewer studies attempt to link tourism business owners' perceptions of sustainable practices with the barriers they face when attempting to implement the sustainable actions.

To fill this void in the literature, the present research is focused upon: 1) investigating tourism business owners' and operators' perceptions of sustainable practices to their businesses' long-term success; 2) using a factor-cluster approach to profiling and describing tourism business groupings; and 3) understanding differences which may exist between these clusters based on the barriers they face when attempting to implement these sustainable practices.

1.2 Literature Review

Over the past several decades, businesses have begun to shift their focus from solely profit to include a broader definition of success which embraces sustainability. In this paper, we adopt the definition of sustainability and sustainable development established by the World Commission on Environment and Development (WCED) in 1987: sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). Sustainability and sustainable practices in business research involve three pillars or components that include the environmental responsibility (the planet and its health), social fairness (the people), and financial viability (the economy and ability to produce) (Peloza, 2008). This definition suggests that businesses that participate in sustainable strategies should concurrently incorporate social and environmental values when seeking economic profits. Some examples of sustainable practices within businesses include Corporate Social Responsibility (CSR), supply chain management, energy saving, waste reduction and management, among a variety of others. Even though businesses receive benefits such as energy saving and comparative advantage to motivate them to adopt sustainable strategies, they also face risks and challenges, such as lack of resources and information when implementing them.

1.2.1 Sustainable Practices: Motivations and Benefits

Studies show that legal regulation is the primary reason for a company to be sustainable, although social responsibility and marketing benefits also play key roles (Jarvis, Weeden, & Simcock, 2010). The United States does not currently regulate sustainable businesses nor is there a universal green certification that a business could obtain that would promote marketing benefits. Therefore, businesses in the tourism industry in the United States are primarily motivated by moral responsibility to take sustainable actions. Although public consciousness of the importance of sustainable practices has increased, many businesses do not currently prioritize their implementation (Ololade & Rametse, 2018). Tzschentke, Kirk, and Barker (2004) found that besides legal regulation, businesses were primarily motivated to implement sustainable practices to fulfill their social responsibilities, complete their civic duty, and integrate within their community. Businesses began to realize that both opportunities, as well as risks, have roots firmly in environmental and social problems. As such, maintaining social fairness and addressing environmental concerns became a vital part of an economically successful business strategy. When explaining the social equity pillar of sustainability, Porter and Kramer (2006) believe that "successful corporations need a healthy society […] a healthy society creates expanding demand for business, as more human needs are met and aspirations grow" (p. 83). Researchers also suggest that businesses engaging in sustainable strategies or other socially-oriented activities usually find themselves to be more attractive to higher-quality employees and have higher retention rates (Martin & Ruiz, 2007), as well as enjoying competitive advantages by being a pioneer in introducing new services or products (Hart & Milstein, 2003).

In addition to social responsibility, some business owners may choose to adopt sustainable practices for personal and moral reasons (Castka, Balzarova, & Bamber, 2004). Florea, Cheung, and Herndon (2012) found that ethical considerations, such as advancing the public's interests, were center to a business' motivation in implementing sustainable practices. This suggests that businesses' pursuit of sustainability may be based on their commitment to the local community. Engaging in sustainable practices may help a business earn the trust of its host community, improve its image, and enjoy an increased number of public customers (Jenkins, 2006).

Cost savings from implementing sustainable practices, such as adopting energy efficient production, is another motivation. Simpson et al. (2004) examined small and medium sized firms in UK regarding their motivations to take sustainable actions and found such cost savings could be realized through "efficiency drives, in meeting environmental legislation and from greater energy efficiency" (p.168). Bradford and Fraser's (2008) research conducted by the Carbon Trust in UK concluded that 10-20 percent of cost savings from energy consumption reduction can be translated a 5 percent increase in sales, and efforts to reduce energy consumption provide opportunities for innovation and competitive advantages. Simpson, Taylor, and Barker (2004) concurred with Bradford and Fraser, stating that companies that made efforts to reduce energy consumption "were able to gain a competitive advantage via improved energy efficiency, reduced waste, increased recycling, increased quality,

better environmental credentials, greater customer satisfaction, new business opportunities, gaining local community support, gaining increased staff commitment, positive pressure group relations, improved media coverage or a combination of these benefits" (p.168).

Competitive advantages could be achieved through information and resources that other firms do not have access to or are not aware of. Using a sustainable lens may help firms discover new opportunities and more effective methods to achieve and maintain competitive advantages in their industries. Luetkenhorst (2004) conducted a study in the Netherlands which examined companies' adoption of sustainable actions as a core competency. It was found that sustainable strategies "can be a positive factor in overall strategies that rely on the 'high road' towards competitiveness" (p.165).

1.2.2 Sustainable Practices: Barriers

Previous studies identified two types of obstacles to the adoption of sustainable practices by businesses, especially small- to medium-sized businesses: external barriers and internal organizational barriers (Dasanayaka, Gunarathne, Murphy, & Nagirikandalage, 2022).

There is a fairly consistent set of internal organizational barriers faced by small- and medium-sized businesses that limits them in their adoption of sustainable actions. These internal barriers include lack of resources (Lewis, Cassells, & Roxas, 2015; Meath, Linnenluecke, & Griffiths, 2016; Singh & Sarkar, 2019;), lack of employee engagement (Chan, 2011; Meath et al., 2016; Singh & Sarkar, 2019), complexity of engaging in sustainable practices (Dreessen, 2009), insufficient financial return on investment (Bradford and Fraser, 2008), negative managerial attitudes and lack of knowledge (Meath et al., 2016; Singh & Sarkar, 2019). In small businesses in particular, financial limitations have been identified as the main barrier in the implementation of sustainable practices (McEwen, 2013). Literature suggests that these barriers are interconnected and interdependent (Dasanayaka et al., 2022). Taylor et al. (2003) argued that businesses perceived sustainable practices as an added cost, and with minimal return on investment in the form of customer interest and spending. Complementing these findings, Revell, Stokes, and Chen (2009) discovered that small to medium sized businesses were increasingly aware of the potential benefits of embracing sustainable practices, but they maintained significant skepticism of the profitability of environmentally-friendly business practices. Similar studies have found that lack of financial incentives and a lack of urgency were the greatest barriers for businesses to implement sustainable practices (Caldera, Desha, & Dawes, 2019; Chan, 2011).

On the other hand, external barriers include the high cost of certification (Alberto & Erlantz, 2019; Cantele & Zardini, 2020; De-Steur et, Temmerman, Gellynck, & Canavari, 2020); local barriers (Chan, 2011), lack of support and guidance from government or relevant institutes (Lewis et al., 2015), and industrial barriers (Hillary, 2004).

Interestingly, the majority the literature regarding sustainable practices in business was focused on the European market. South and North American businesses were surprisingly underrepresented in the literature (Dasanayaka et al., 2022). Furthermore, most of the related literature focused on the manufacturing industry. The perception and implementations of sustainable practices in tourism-related businesses has not been widely studied (Chan, 2011). The present study seeks to fill those gaps in the literature by: 1) assessing tourism businesses' perceptions of sustainable practices; and 2) identifying barriers they face that prevent them from implementing sustainable practices.

The following three research questions were addressed in this study:

1) What are tourism business owners' and operators' perceptions of the importance of sustainable practices?

2) What are tourism business owners' and operators' perceptions of the barriers that prevent them from implementing sustainable practices?

3) Are there differences in perceived barriers of implementing sustainable practices among different clusters of businesses based on their similarity of sustainability perceptions?

2. Method

2.1 Study Area

The travel and tourism industry in North Carolina (NC) directly employs more than 230 000 residents. Nearly 45 000 North Carolina businesses produce goods and services to support visitor demand, with travelers contributing more than 25% of their total products and services. Travel and tourism also generate more than $2.0 billion in state and local tax revenues (Visit North Carolina, 2022). With beautiful beaches, a long history, and a rich culture, coastal North Carolina is an optimal tourist destination. Coastal NC communities rely on recreation and tourism

for their economic success. Along the entire coast, the tourism industry supports 88% of their employment and 55% of their GDP (May, 2019).

2.2 Sampling Procedures

The 2017 North American Industry Classification System (NAICS) was used to identify 1803 tourism and travel-related businesses in twenty coastal counties in NC. The 1803 businesses are from the following categories: 48-49 transportation and warehousing; 56 administrative and support and waste management and remediation services; 71 arts, entertainment and recreation; and 72 accommodation and food services. This definition of the tourim industry using NAICS codes was developed from the tourism literature (Ayscue, Curtis, Hao, & Montz, 2015; Roehl, 1998). The business email addresses were obtained from InfoUSA. To begin the data collection, an initial email invitation letter was sent out to the owners and operators of tourism businesses describing the study and including a link to an online Qualtrics survey. The survey was conducted from February, 2020 to April, 2020. During the survey periods, two reminder emails were sent to those who had not completed the survey. A total of 90 usable questionnaires were received.

2.3 Participant Characteristics

Of the 90 businesses who responded to the survey, 32% were eating and drinking establishments; 25.3% were services; 20% were in the transportation category; 17.3% were lodging; 4% were in the museums, zoos, and art gallery category; and 1.3% fell into the government entity category.

2.4 Measurement and Factor Analysis

2.4.1 Sustainable Practices

To examine tourism business owners' and operators' perceptions on the importance of sustainable practices to the future success of their community's tourism industry, the authors adopted fifteen sustainable action statements using 11-point Likert Scale ranging from 0 (not at all important) to 10 (very important). Likert scales with greater response ranges, such as the 11-point scale utilized in the present study, are well known to increase the variability in responses (Powell, Stern, Frensley, & Moore, 2019).

The sustainable practice indicators were developed and modified from the sustainable tourism literature (Hao, Hill, & Prichard, 2018; Yu, Chancellor, & Cole, 2011). These sustainable action indicators also represented those actions identified and promoted by Sustainable Travel International, which is an internationally-recognized organization created to affect change in all aspects of sustainability within the tourism industry.

Table 1 reflects tourism business owners' perceptions of the importance of a variety of sustainable actions. Overall, the sustainable practices that they rated very important were: 1) conserving the natural environment; 2) protecting community's natural environment for future generations; 3) protecting air quality; and 4) protecting water quality. The sustainable practices that they rated important were: 1) managing, reducing, and recycling solid waste; 2) managing wastewater; 3) being energy efficient; 4) preserving culture and heritage; 5) providing economic benefits from tourism to locals; and 6) training and educating employees and clients on sustainability practices.

Table 1. Business owners' perceptions of sustainable actions

Sustainable Actions	Mean
Reducing and managing greenhouse gas emissions	7.74
Managing, reducing, and recycling solid waste	8.62
Reducing consumption of freshwater	6.72
Managing wastewater	8.74
Being energy efficient	8.27
Conserving the natural environment	9.49
Protecting our community's natural environment for future generations	9.39
Protecting air quality	9.11
Protecting water quality	9.64
Reducing noise	6.55
Preserving culture and heritage	8.00
Providing economic benefits from tourism to locals	8.62
Purchasing from companies with certified green practices	6.99
Training and educating employees and clients on sustainability practices	7.97
Full access for everyone in the community to participate in tourism development decisions	7.38

2.4.2 Factor Analysis

In order to identify the construct underlying a series of fifteen variables measuring sustainable actions, Principal Component Analysis (PCA) was utilized. The Kaiser-Meyer-Oklin (KMO) Measure of Sampling Adequacy examines the quality of the correlations between variables that can continue with the factor analysis. A good factor analysis requires a KMO value of 0.6 and above (Tabachnick & Fidell, 1989). The KMO statistic was 0.788 and the Bartlett's test was significant (p=.000). This reflects that the sampling for PCA was adequate and necessary. The factor loading values indicate the correlations between variables and factors, and detect whether the set of variables can be represented by a specific factor or theme. Based on the factor loadings for each variable (see Table 2), three factors were identified which explained 61% of the variance. These three factors represented the dimensions of sustainability: operational-oriented, normative-oriented, and community-oriented sustainability. An average construct scale was calculated and created for each of the three dimensions of the sustainability, which were used to classify the level of sustainability for tourism businesses.

Table 2. Principle component analysis for business owners' perceptions of the importance of sustainable practices in their community

Factored Items	Factor Loadings
Operational-oriented sustainability	
Reducing and managing greenhouse gas emissions	0.718
Managing, reducing, and recycling solid waste	0.862
Reducing consumption of freshwater	0.734
Managing wastewater	0.629
Being energy efficient	0.580
Purchasing from companies with certified green practices	0.750
Training and educating employees on sustainability practices	0.605
Normative-oriented sustainability	
Conserving the natural environment	-0.863
Protecting our community's natural environment for future generations	-0.904
Protecting air quality	-0.710
Protecting water quality	-0.700
Community-oriented sustainability	
Reducing noise	0.786
Preserving culture and heritage	0.752
Providing economic benefits from tourism to locals	0.500
Full access for everyone in the community to participate in tourism development decisions	0.642

2.4.3 Sustainable Practices Barriers

Business owners' and operators' opinions of the barriers that limit their ability to implement sustainable practices were measured by 13 statements using a 11-point Likert scale (0 = very insignificant to 10 = very significant). These variables were selected from business and sustainability literature as discussed in the literature review section. The results from descriptive analysis and Table 3 show that the most prevalent barriers to businesses implementing sustainable practices were "lack of financial incentives," "lack of funds/prioritization of funds," "complexity of implementation," and "cost/perceived lack of return on investment." Many respondents confirmed these findings with their answers to the open-ended question "What are other barriers that your business faces in implementing these sustainable practices?" The following quotes are some of the relevant respondent answers to the open-ended question:

- "The cost for many environmentally sustainable items are pretty large."

- "Cost. Cost. Cost."

- "Regulations are too quick and stringent for small businesses to switch over. "The cost for many environmentally sustainable items is pretty large."

- "Cost mostly. In a seasonal business, the off season is a bit tough financially. Minimizing expenses is key to making it to the 'in season'."

- "Affordable solutions that work."

- "It's all about incentive."

- "My biggest issue with sustainability is the cost. The price for more energy efficient equipment is more than twice what I pay for equipment now. And with the technology being so new, I have a hard time spending money on something that hasn't been proven yet."

- "Government strict laws for protecting environment."

The parameters that were perceived as less severe obstacles were "lack of resources for marketing," "customers not interested," "lack of training/information.," and "no upper management commitment." This is consistent with

the finding from a study conducted by Bux, Zhang, and Ahmad (2020) that "lack of concern for reputation" and "customers do not care about CSR" emerged as the least prominent barriers to adoption.

Table 3. Barriers businesses face in developing and implementing sustainable practices

Barriers	Mean
Lack of time	5.82
Lack of training/information	5.44
Lack of support from DMO (Destination Marketing Organization) and/or CVB (Convention and Visitor Bureau)	5.53
Lack of financial incentives	7.27
Lack of funds/prioritization of funds	7.87
Complexity of implementation	6.95
Lack of staff	6.16
Cost/perceived lack of return on investment	7.13
Lack of support/advice from local government	6.64
Customers not interested	5.48
No upper management commitment	3.98
Lack of resources for marketing	5.50
Seasonality of business	6.47

The respondents were also given opportunities to provide suggestions on strategies that would promote the extension of their organizations' sustainable practices. Among those who responded, half recommended financially-related programs, such as tax breaks and government incentives, as the primary approaches that would motivate them to adopt sustainable practices. These findings are consistent with other studies that found cost and lack of financial incentives, as well as complexity of implementation, to be major barriers to implementing sustainable practices (Dreessen, 2009, Howes et al. 2017).

3. Results and Discussion

3.1 Cluster Analysis

After identifying the dimensions that underlie tourism business owners' and operators' perceptions on the importance of sustainable practices to the future success of their community's tourism industry, a k-means Cluster Analysis was then performed to group responses based on the similarity of perceptions of those dimensions using the constructed scales created from the factor analyses. Three clusters were revealed. Based on each cluster members' responses to the three orientations of sustainability, the three clusters were named Advocators, Accepters, and Anticipators. The distribution of each of the three clusters are shown in table 4. The first cluster (Advocators) contained 37 businesses, 52.1% of the sample. The Advocators perceived normative-oriented sustainability very important (mean = 9.94), strongly supported operational-oriented sustainability (mean = 8.95) and community-oriented sustainability (mean = 8.81). The second cluster (Accepters) contained 31 businesses, 43.7% of the sample. The Accepters also perceived normative-oriented sustainability very important (mean = 9.34), but only moderately supported the operational-oriented sustainability (mean = 7.12) and the community-oriented sustainability (mean = 6.60). The third cluster (Anticipators) contained only 3 businesses, 4.2% of the sample. The Anticipators felt neutral to moderately important about normative-oriented (mean = 6.33) and community-oriented sustainability (mean = 6.5) about the normative-oriented sustainable practices, but had reserved support about operational-oriented sustainable actions (mean = 5.95).

Table 4. Cluster means

Dimensions	Advocators	Accepters	Anticipators
Operational-oriented sustainability	8.95	7.12	5.95
Normative-oriented sustainability	9.94	9.34	6.33
Community-oriented sustainability	8.81	6.60	6.50
Number of cases (n)	37 (52.1%)	31 (43.7%)	3 (4.2%)

3.2 Multivariate Analysis of Variance (MANOVA)

In order to compare the differences among the three clusters in terms of the barriers that they perceived prevent them from implementing sustainable actions, Multivariate Analysis of Variance (MANOVA) tests were conducted. The MANOVA tests showed that the three clusters were statistically significantly different from each other on five barrier statements: a) lack of time; b) lack of financial incentives; c) lack of funds / prioritization of funds; d) complexity of implementation; and e) seasonality of business. Post hoc tests were carried out to determine how different clusters were different from each other in obstacles they faced in adopting sustainable actions.

3.2.1 Lack of Time

Advocators (mean = 6.86) perceived "lack of time" as a relatively significant barrier in implementing sustainable practices. Anticipators (mean = 6.00) did not perceive "lack of time" as a significant barrier in implementing sustainable practices. Accepters (mean = 4.69) felt even less significantly about "lack of time" as an obstacle. There was a statistically significant difference between Advocators and Anticipators in in terms of "lack of time" as a barrier in implementing sustainable practices ($p = 0.025$). Accepters perceived "lack of time" as less of a hurdle than the Advocators in adopting sustainable practices.

3.2.2 Lack of Financial Incentives

Advocators (mean = 7.71) and Accepters (mean = 6.72) perceived "lack of financial incentives" as a significant barrier in implementing sustainable practices. Anticipators (mean = 3.33) did not perceive "lack of financial incentives" to be an obstacle. Advocators and Accepters represented 95% of the sample, which indicates that 95% of the respondents believed that "lack of financial incentives" is a major barrier. This finding is consistent with the literature suggesting that "lack of financial incentives" is a prominent obstacle for businesses adopting sustainable practices along with other critical barriers such as "lack of regulations and standards" (Bux et al., 2020). These barriers provide an opportunity to understand that many companies wish to implement sustainable practices but face numerous obstacles in doing so. Chan (2011) and Caldera et al. (2019) also found that lack of financial incentives and a lack of urgency were the greatest barriers for businesses in implementing sustainable practices. Table 4 shows that there was a statistically significant difference between Advocators and Anticipators in "lack of financial incentives" as a barrier in implementing sustainable practices ($p = 0.032$).

3.2.3 Lack of Funds / Prioritization of Funds

Advocators (mean = 9.07) perceived "lack of funds" to be a very significant barrier in implementing sustainable practices, while Anticipators (mean = 7.00) believed "lack of funds" was a relatively significant barrier. Anticipators (Mean = 3.67) did not perceive "lack of funds" to be an obstacle. This result of "lack of funds" being a prevalent obstacle that limited tourism businesses' ability to adopt sustainable practices is also consistent with the literature in recognizing that "lack of resources" is a major internal organization barrier (Chan, 2011; Dasanayaka et al., 2022)

There was a statistically significant difference between Advocators and Accepters in in terms of "lack of funds" as a barrier in implementing sustainable practices ($p = 0.014$). Accepters perceived "lack of funds" as less a hurdle than the Advocators in adopting sustainable practices. There was also a statistically significant difference between Advocators and Anticipators in terms of "lack of funds" as a barrier in implementing sustainable practices ($p = 0.003$). Anticipators perceived "lack of funds" as less a hurdle than the Advocators in adopting sustainable practices.

3.2.4 Complexity of Implementation

Advocators (mean = 7.88) perceived "complexity of implementation" to be a significant barrier in implementing sustainable practices, while Anticipators (mean = 6.28) believed "complexity of implementation" to be a relatively significant barrier. Anticipators (Mean = 3.00) did not perceive "complexity of implementation" as an obstacle. Chkanikova and Mont's (2012) study on food retailers echoed this result. They argued that a lack of sufficient expertise that was needed for implementing the sustainable strategies is a barrier. Ayuso (2006) concurred with

this argument in her study of hotels' sustainable initiatives and practices. Some of the barriers Ayuso identified include knowledge of the instrument and how to utilize it, the interest of the customers in practices, and the involvement of hotel staff and management. Stewart, Bey, and Boks (2016) investigated companies of various types and sizes on a wide set of challenges and aspects that must be considered when implementing sustainable practices. The authors highlighted the complexity of implementing long-term sustainability approaches and how frequently they failed due to the complexity of implementation.

There was also a statistically significant difference between Advocators and Anticipators in terms of "complexity of implementation" as a barrier to implementing sustainable practices (p = 0.005). Anticipators perceived "complexity of implementation" as less of a hurdle than the Advocators in adopting sustainable practices.

Table 5. MANOVA tests on barriers

Barriers	Clusters	Mean	SD	F	Sig.
Lack of time	Advocators [a]	6.86 [b]	3.10		
	Accepters [b]	4.69 [a]	2.65	3.637	0.033*
	Anticipators [c]	6.00	3.61		
Lack of financial incentives	Advocators [a]	7.71 [c]	2.32		
	Accepters [b]	6.72	2.97	3.662	0.032*
	Anticipators [c]	3.33 [a]	4.93		
Lack of funds / prioritization of funds	Advocators [a]	9.07 [b c]	1.44		
	Accepters [b]	7.00 [a]	3.04	8.338	0.001*
	Anticipators [c]	3.67 [a]	5.51		
Complexity of implementation	Advocators [a]	7.88 [c]	2.30		
	Accepters [b]	6.28	2.54	6.828	0.002*
	Anticipators [c]	3.00 [a]	2.00		
Seasonality of business	Advocators [a]	7.33	2.30		
	Accepters [b]	5.32	2.54	3.465	0.004*
	Anticipators [c]	9.00	2.00		

Note: MANOVA was used to determine statistical differences among groups. Differences among groups were indicated by superscript letters a, b, and c.

* indicated significant at 0.05 (p value).

3.2.5 Seasonality of Business

Advocators (mean = 7.33) perceived "seasonality of business" as a relatively significant barrier in implementing sustainable practices, while Accepters (mean = 5.32) were neutral about "seasonality of business" as a barrier. Anticipators (mean = 9.00) perceived "seasonality of business" as a very significant barrier in implementing sustainable practices. Even though the MANOVA tests indicated that there were significant differences among the three groups in terms of perceiving "seasonality of business" as a barrier, the post hoc tests did not detect which pair of the groups were significantly different from each other. This might be due to the small sample size. There are only three members in the Anticipator group. Seasonality of business has not been discussed in the literature, to the authors' knowledge, as a barrier in implementing sustainable practices due to the fact that limited research on sustainable practices has been conducted in the tourism industry. Seasonality is considered one of the important characteristics of tourism-related business.

4. Conclusion and Limitations

The purpose of this study was to investigate tourism business owners' and operators' perceptions on the importance of sustainable practices to the long-term success of the tourism industry as well as the barriers of implementing sustainable practices in North Carolina coastal counties. The majority of research in sustainable practices has focused on businesses in the manufacturing industry, particularly in Europe. Very limited research focuses on tourism business in the U.S. Furthermore, fewer studies link tourism business owners' perceptions on sustainable

practices with the barriers they face when implementing these sustainable actions. The following three research questions were addressed in this study:

1) What are tourism business owners' and operators' perceptions of the importance of sustainable practices?

2) What are tourism business owners' and operators' perceptions of the barriers that prevent them from implementing sustainable practices?

3) Are there any differences in terms of perceived barriers of implementing sustainable practices among different clusters of businesses based on their similarity of sustainability perceptions?

Descriptive analysis was conducted to answer research question 1. The sustainable practices that business owners rated very important were: 1) conserving the natural environment; 2) protecting community's natural environment for future generations; 3) protecting air quality; and 4) protecting water quality. The sustainable practices that business owners perceived as important were: 1) managing, reducing and recycling solid waste; 2) managing wastewater; 3) being energy efficient; 4) preserving culture and heritage; 5) providing economic benefits from tourism to locals; and 6) training and educating employees and clients on sustainability practices.

The factor-cluster approach along with multivariate analysis of variance were performed to answer research questions 2 and 3. The most prevalent barriers to businesses implementing sustainable practices were "lack of financial incentives," "lack of funds/prioritization of funds," "complexity of implementation," and "cost/perceived lack of return on investment." These results were further confirmed by the additional qualitative comments provided by the respondents. This poses an opportunity for potential government or outside intervention to aid in the provision of financial and other critical resources encouraging companies to implement sustainable practices.

Three clusters were revealed based on participants' responses to the three orientations of sustainability. The three clusters were named Advocators, Accepters, and Anticipators. MANOVA tests showed that three clusters were statistically significantly different from each other on five barrier statements: a) lack of time; b) lack of financial incentives; c) lack of funds/prioritization of funds; d) complexity of implementation; and e) seasonality of business.

Broad stakeholder support is essential in implementing and maintaining sustainable development at the community level (Choi & Sirakaya, 2005). Community participation in planning and development of local tourism industries can influence the economic, social and environmental impacts of tourism development. Hence, it is advantageous for decision makers and other stakeholders to understand the extent to which tourism-related businesses actively support sustainable tourism development. The findings of the present research may therefore enhance guidance of tourism entities concerning their own sustainable actions, as well as provide grounded data to inform state tourism officials regarding their role in advising these entities on how best to maintain and present their tourism product in a sustainable manner.

The major limitation of this study is the sample size. During the time of data collection, the World Health Organization declared a global pandemic due to COVID-19. Shortly afterward, non-essential businesses closed. The tourism sector is one of the industries hardest hit by the outbreak of COVID-19, with impacts on both travel supply and demand. This unanticipated event significantly affected the response rate of this study. In addition, it would be beneficial to compare tourism businesses' opinions of the importance of sustainable practices with their actual implementation of sustainable practices.

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