Boat Captain Perspectives on adding non-consumptive value to charter experiences on the South Carolina coast

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Abstract

Profitability and competitiveness of the saltwater charter fishing industry is becoming more challenging in coastal communities. Adding value with non-consumptive experiences and targeting a broader range of marine tourists may enhance industry sustainability as well as broaden opportunities for public access to marine waters. This study explored industry beliefs about capabilities for implementing new or enhanced services as a means to understand capacity for adding non-consumptive value. Semi-structured interviews and a written self-assessment survey were administered to 43 charter operators licensed in coastal South Carolina during the summer of 2012. Operators gave high ratings to their knowledge relevant to providing outreach on expanded topics, but were less confident about their marketing, networking (within the industry and with the tourism industry), and customer service skills. Consumer demand information was also desired.

Management Implications

For marine resource managers, this research identifies the information most needed for captains to add non-consumptive value. This research also highlights the importance of marine resource managers about understanding the perception of issues for charter boat captains, specifically from a regulatory standpoint. For charter boat captains, this research suggests that most captains would support collaboration between other charter boat captains, local communities, and tourism promotion organizations. However, captains are not well equipped to establish these relationships. Finally, the identification of potential value-added services may be helpful in developing and diversifying the charter boat industry.

Key Words

charter boat operators, fishing, value-added services, coastal tourism, marine tourism growth

1. Introduction

Recreational charter operators in coastal regions in different countries including the U.S. (Dumas, Whitehead, Landry, & Herstine, 2009), France (Alban & Boncoeur, 2004) and Australia (Gartside, 2001) face numerous challenges to business survival. These challenges include fluctuating fuel costs, increasingly restrictive regulations on catch size and quota, decline in consumer willingness to pay, and competition with other coastal venues, services and amenities catering to tourists (Murray, Johnson, McCay, Martin, Danko, & Takahashi, 2010). Exploring perspectives of operators of for-hire fishing businesses (i.e., recreational charter, head or party, and inshore guide boats; hereafter 'charter' for simplicity) regarding potential for enhancing the long-term prosperity and sustainability of their industry is needed. In addition, since charter boats provide the public with access to coastal and ocean waters, the capacity of the industry to expand provision of marine recreation, tourism and education experiences, including non-consumptive activities, is of interest.

A 2009 federal economic study of the recreational charter sector on the U.S. South Atlantic coast found that the South Carolina charter (i.e., six passengers or less) population declined 30% from 1998 to 2009, and the head boat (i.e., more than six passengers) population declined 50% (Holland, Oh, Larkin, & Hodges, 2012). That study also found that two-thirds of South Carolina (SC) charter operators were operating a charter boat for 5 years or less. Operators interviewed for that study were considering nearshore trips and adding marine ecotourism and natural history interpretation to enhance trip value without raising rates and broaden their customer base (Holland et al., 2012).

The current study focused on identifying the range of perceptions and experiences among marine charter boat captains about value-added services that 1) they were currently providing or could provide, 2) were in demand by anglers and non-anglers seeking access to offshore marine environments, and 3) were considered possible within regulatory restrictions. The study also examined their self-assessed capacity for knowledge and skill related to provision of these services and key challenges facing charter operators in the current economic climate.

2. Literature Review

Stimulating production of value-added experiences and services has been part of a long term economic sustainability strategy for declining marine resource dependent industries in coastal communities. For example, special events and culinary experiences highlighting local seafood as a quality product have been used to help improve profitability of the fishing industry. In coastal tourism destinations with access to fisheries, the charter industry has demonstrated the ability to attract new hotels and restaurants as support businesses for the local economy (Amsden, Stedman, & Kruger, 2010). However, the presence of a marine charter fishing fleet in a community is often dependent on the extent of coastal gentrification and whether fishing is prioritized in waterfront development plans (Colburn & Jepson, 2012). The charter industry provides considerable economic impacts to coastal communities. Research by Holland et al. (2012) reported that in South Carolina alone in 2009, charter boats attracted about 67,000 passengers, 80% of which were non-locals. These charter boats generated $137.9 million of total economic output and supported about 540 jobs.

The continued presence of recreational charter operators in coastal communities is also desirable because these businesses provide access to offshore waters for those who do not own a boat. However, charter operators need innovative and entrepreneurial strategies to adapt to changing economic and environmental challenges. These challenges include fluctuating fuel costs, regulatory limitations due to sustainable management policy impacting popular recreational fisheries, an increasingly competitive and complex business environment, and consumer demand for lower trip costs during economic recession (Oh, Lyu, & Holland, 2012). For example, charter operators must find viable solutions to compete with other coastal tourism services for the value received.

One possible strategy for adapting to the competitive environment is adding value, either by enhancing services for current trips or offering different types of trips, to attract a broader variety of customers, including anglers and non-anglers. Since charter operators conduct a unique service that is dependent on providing a quality experience (Ditton, Gill, & MacGregor, 1991), adding value to increase demand for these services has potential. Some charter operators on the southeast Atlantic coast have begun exploring strategies for adding value. Interviews conducted for a U.S. National Oceanic & Atmospheric Administration (NOAA) socio-economic assessment of saltwater charter operators (Holland et al., 2012) suggested that some operators were already adapting by switching to smaller vessels and/or focusing on providing trips closer to shore as a means to lower costs and appeal to different types of customers. These efforts include adding trips that are focused on non-angling, ecotourism experiences. However, there has been limited research examining demand for value-added recreational charter boat services.

A study conducted in Florida indicated charter fishing customers were interested in opportunities to see marine wildlife and receive conservation education as part of the trip and thus were willing to pay more (between $9 and $43) for a higher level of wildlife seen during the trip (Oh et al., 2012). Also, a study of charter fishing customers (N=307) on the Alabama Gulf Coast indicated that 87% of respondents felt knowledge and courtesy of captain and crew was very important to their charter trip satisfaction (New South Research, 2010).

Another study conducted in the southern United States demonstrated an increase of non-consumptive wildlife recreation. This included marine and non-marine based recreation. The economic impact of these experiences from equipment and trip-related expenses totaled $54.9 billion in 2011 (Poudel, Munn, & Henderson, in-press). Poudel et al. (in-press) also stated that this type of wildlife recreation can provide motivations for conservation of wildlife.

Given the intersection of the charter industry with the tourism industry and with marine resource management, it is also important to consider the vital role that the community and its resources can play in connecting agencies, organizations, and government entities as part of broader resource management strategies involving the charter industry (Wondolleck & Yaffee, 2000). Interviews conducted with marine resource dependent business operators for Jodice, Lacher, Norman, and Hughes (2010), documented some decline in the SC charter industry, but also found some interest among charter operators in developing stronger linkages with tourism promotion programs as a means to attract customers. In addition, charter trips offer potential for expanded opportunities to engage the public with outreach and education about sustainable marine resource use and management.

Ultimately, the capacity of the industry to provide value-added services depends on the ability of operators to invest in an appropriate vessel, deliver quality services, and capitalize on or build consumer demand. However, little is known about operators' capacity to add or expand services. A needs assessment is a critical tool for defining capacity, informing decision-making for investment, and determining whether additional training or support could stimulate development consistent with integrated coastal management strategies (Cicin-Sain & Knecht, 1998; Goldstein & Ford, 2002). Adding interpretive services (e.g. wildlife identification, natural history interpretation, maritime history and culture interpretation) that are not part of a typical saltwater fishing trip requires extensive topical knowledge to assure quality, and skilled interpretive techniques to assure delivery of commentary that is well-timed, interesting and engaging to customers (Ham & Weiler, 2007). Consequently, it is important to assess capacity for these skills. In addition, capacity may be limited by the attitudes and perceptions among charter operators, especially their beliefs in their abilities to perform certain actions given specific inhibiting or facilitating factors (Ajzen, 2002).

To better understand what is possible for coastal charter operators, a supply analysis is needed to understand the current services available and to characterize capacity for provision of value-added services, including those not specific to catching fish. For example, expanding services to include education and interpretation about marine ecology and other coastal topics would require competencies beyond expertise on where and how to catch fish.

2.1. Research Question

This study focused on determining baseline conditions and issues faced by charter operators as they adapt their business to regulatory and economic changes. Specifically, the research question was: What are the elements faced by charter operators in their efforts to provide expanded and non-fishing value-added services and experiences to anglers and non-anglers visiting or recreating on the SC coast? The goal was to learn from charter operators what real and perceived barriers and opportunities existed related to inclusion of value-added services. Inclusion of charter operators in all major regions of the coast was important because charter businesses, tourism marketing, destination attributes (e.g., level of development, types of coastal ecosystems and access, types of fishing activities) and recreation opportunities were different across these regions. In person, on-site interviews were used to achieve a rich understanding of current concerns, services being provided and issues related to adaptation through design or expansion of alternative coastal recreation and tourism services and strategies for offshore charters.

3. Methods

This study focused on illuminating the attitudes and perceptions of SC charter operators as a means to understanding capacity. This focus is consistent with perceived behavioral control theory (Ajzen, 2002), which suggests that identifying the range of attitudes and beliefs about taking an action is necessary to determine what control beliefs influence a behavior of interest (e.g., even if an individual believes they have the knowledge or skills to successfully complete a task, they may still perceive that certain external barriers control their success). The study also asked operators to self-assess the importance of (to customers) and their level of preparation for

knowledge and skills associated with delivery of current and expanded services. It also explored the supply of current and planned charter services (fishing and non-fishing) on the SC coast.

3.1. Sampling

The study sites included the three major coastal regions (i.e. Myrtle Beach, Charleston, and Hilton Head/Beaufort) in SC. The SC Department of Natural Resources (SCDNR) provided the full list of 494 addresses for SC charter license holders for 2012 via the Freedom of Information Act. The list included V-1: vessels carrying six or fewer passengers (94%), V-2: vessels carrying 7 – 49 passengers (5%) and V-3: vessels carrying 50 or more passengers (1%). Appropriate human subjects protocol was observed to maintain confidentiality of these addresses. Several individuals had operated multiple vessels. Therefore, the address list was edited to allow for a single entry per individual owner, since the unit of analysis was the charter operator rather than the vessel. Individuals on the list were also checked against a publically available list of federal saltwater licenses to help assure inclusion of those also fishing in federal waters (over 3 miles offshore). Finally, only those currently promoting their business through advertising of some form were retained on the list because this was evidence they had somewhat successfully navigated regulatory and change and economic challenges (Murray et al., 2010).

Prior to random selection, the address list was stratified into the three major coastal regions to ensure representation across the destinations. Given prior experience with this population, to reach saturation in the range of comments, the desired number of interviews per region was fourteen (Creswell, 2007). Thirty individuals were randomly selected from each regional subset for invitation to be interviewed with the expectation that at least fourteen would participate. In

addition, because there were so few operators with the V-2 or V-3 license, all individuals with these licenses were invited. This purposeful sampling method was used to assure a diverse set of perspectives that were representative of the setting (Maxwell, 2013). Interview invitations were mailed to all individuals in the final sample list, and then the researchers followed up with non-respondents by phone or email. For those who responded to the invitation, a time and meeting place was arranged for an interview. However, due to potential for cancellation (e.g., change in trip scheduling), an alternate list (those not selected by the random sampling) was used to identify nearest neighbors (i.e., in same port as initially scheduled interviews within a region). These alternates were contacted (in person or by phone) while the interviewers were working within a port. Ultimately 43 interviews were conducted.

3.2. Site Description

The interview location was at the discretion of captains to allow a more free-flowing dialogue (Spradley, 1979). Interviews were typically conducted at the dock where each captain's boat was registered. Generally, captains invited the researcher onto their boat for the interview. In a few instances, interviews were conducted at the captain's home. In either case, the research team made sure that interviews were conducted in a private location where no other persons could hear responses from the captains. Due to the potential for questions to lead to sensitive information, confidentiality was paramount.

Captains also had the option of having their interview recorded by the interviewer or having the interviewer take detailed notes. Thirty-two of the 43 interviewees (74.4%) allowed the research team to record their interviews.

3.3. Data Collection Instrument

Each interview began with a short written survey, consisting of demographic and descriptive questions, designed to profile the charter operator's level of experience. The self-assessment part of the survey included two sets of knowledge "competencies" relevant to 1) saltwater fishing (e.g., fishing regulations, boat safety, fish cleaning and cooking) and 2) non-fishing services (e.g., wildlife identification, marine and fish ecology, maritime culture and history). These knowledge competencies were developed through consensus among two lead marine fisheries managers in the SCDNR and another expert in marine resource management on the SC coast. The self-assessment also included a set of interpretive skill competencies adapted from best practices defined by Powell, Skibins, and Stern (2010). Respondents ranked each competency using two five-point rating scales: 1) importance to responding to customer demands (1=Not important to 5= Very important) and 2) personal preparation (1=Not prepared to 5=Very prepared).

The structure of the survey questions regarding importance of and preparation for skills and knowledge areas was based on prior importance-performance analysis (or importance-preparation analysis). Prior work has used a five-point likert scale (Zhang & Chow, 2004) or a seven point scale (Davis, Misra, & van Auken, 2002). However, the research team decided on a five-point scale to reduce survey complexity and the potential for the respondents to perceive the survey as a burden. Furthermore, seven point scales are more important when the concern is that non-normality or low variability may affect ability to use regression or SEM analysis, which was not planned for this study. Following the written survey, charter operators participated orally in a

semi-structured interview that used open-ended questions and allowed for deeper probing as the interview progressed (Merriam, 2001). Examples of open-ended questions included:

> What do you feel your angling customers most want that you don't currently offer?
>
> What types of support would help you provide value-added services as part of your charter trips?
>
> What are the major problems and/or barriers that prevent you from offering experiences or presentations on topics that are not specific to catching fish?
>
> What are the benefits/strengths of offering value-added opportunities or experiences as part of your charter trip?

3.4. Data Management

All thirty-two audio-recorded interviews were directly transcribed. For the captains that did not participate in audio-recording, detailed interviewer notes were transcribed verbatim. The raw data was then transferred to a spreadsheet in preparation for development and coding of emergent themes and topics. The mean interview time was 21 minutes and 48 seconds. The shortest interview lasted 5 minutes and 47 seconds and the longest interview was 50 minutes and 43 seconds. Four interviews lasted under 10 minutes, and two interviews lasted over 40 minutes.

As seen in Table 1, there were 379 total charter license owners in South Carolina in 2012. The study encompassed 11.3% of all licensed charter captains in the state, with at least 8.1% of captains interviewed in each area. In Region One (Myrtle Beach), eleven of the fourteen interviewees were from the initial invite; three were from the alternate list. In Region Two (Charleston), ten of the fifteen interviewees were from the initial invite; five were from the

alternate list. In Region Three (Hilton Head/Beaufort), nine of the fourteen interviewees were from the initial invite; five were from the alternate list.

[Insert Table 1 Here]

3.5. Data Analysis

Responses to competency items were evaluated using a paired t-test to allow for comparison of non-independent means from the importance and preparation rankings. The semi-structured interviews were transcribed and reviewed by each member of the research team to identify primary themes and topics for analysis (Bernard & Richards, 2009). The analysis was consistent with a phenomenological approach to qualitative research. Specifically, data were collected from individuals who have a shared experience with the phenomenon of interest, and the researchers identified significant statements that provide an understanding of how the participants experience the phenomenon (Creswell, 2007). After a preliminary review of the data, the research team came to agreement on all themes and topics before coding began. Two researchers with knowledge of the project and of fishing, recreation and resource management independently coded data into the selected themes and topics. After initial coding was complete, inter-rater reliability was 89% (Holsti, 1969). The two researchers discussed disagreements in coding and reached near perfect agreement. Descriptive and coding data was then entered into SPSS software to create the Participant Profile.

4. Results & Discussion

4.1. Participant Profile

Interviewees were primarily male and operated as a charter captain full-time (Table 2). Full-time was defined on the survey as having at least 50% of earned income from chartering. Interviewees had a wide-range of age from twenty-one to seventy-five, with roughly half (51.2%) of interviewees aged between thirty and forty-nine. One-third (30.2%) were sixty years or older. Most captains had some college education, with nearly half of respondents having earned at least a college degree.

[Insert Table 2 Here]

As seen in Table 2, experience level also varied greatly, but the majority (58.2%) had one to eight years of experience. Two interviewees were in their first year as a charter captain, and two interviewees were in their 30th year. In terms of location, 62.8% fished more than 50% inshore (within 3 miles from the coast) and 37.2% fished more than 50% offshore (more than 3 miles from the coast). It is important to note that of the 37.2% of offshore captains, only 62% of those captains exclusively fished offshore; the other 38% fished inshore as well.

4.2. Captain Preparation & Importance Survey

Respondents generally ranked their level of preparation on each competency equal to or above their ranking of the importance to the customer for both knowledge and skills (Table 3 & Table 4). The three interpretive skills with the highest importance ranking were “Promote the customer’s interest in salt-water fishing” (M=4.63, SD=0.55), “Relate to the experience level of anglers” (M=4.06, SD=1.21), and “Develop a clear theme throughout the trip” (M=4.03,

SD=1.01) (Table 3). The only skill with a significant difference, $t(34) = -2.12$, $p < .05$, between importance and preparation was "Relate to the experience level of anglers", but preparation (M=4.49, SD=0.66) was ranked higher than importance for this skill. The interpretive skills ranked lowest for preparation were "Use multiple styles of communication" (M=3.54, SD=1.29) and "Tailor messages to different types of user groups" (M=3.69, SD=1.21).

[Insert Table 3 here]

The majority of knowledge items were significant ($p < .05$) with preparation rated higher than importance (Table 4). The fishing-related knowledge competencies that were ranked the highest for importance were "Reasons for recreational fishing regulations" (M=4.06, SD=1.09), "Fish identification" (M=4.26, SD=0.93), and "How to clean, prepare and cook fish" (M=4.00, SD=1.06).

For the knowledge competencies that were more relevant to general marine ecotourism, the highest ranked for importance (I) and preparation (P) were "Identification of other marine animals" (M_I=3.74, SD_I=1.03; M_P=4.06, SD_P=0.89), "Marine mammal identification & ecology" (M_I=3.65, SD_I=1.02; M_P=4.00, SD_P=1.13) and "Physical oceanography" (M_I=3.45, SD_I=1.31; M_P=4.61, SD_P=0.67).

[Insert Table 4 here]

4.3. Semi-Structured Interview Results

A total of five main themes and seven topics emerged from the analysis of the transcribed interview data and phenomenology. The frequency of each topic is shown in Table 5. All topics

except ‘Government’ existed for at least 74% of respondents. For the ‘Government’ topic, only 49% of respondents produced that theme during the interview. Although this is low for inclusion into phenomenology, the passion with which respondents discussed governmental barriers warrants its inclusion into the phenomenology in this study (Braun & Clarke, 2006). The seven emergent topics from the phenomenology are discussed individually. Italicized quotations at the beginning of each topic are a summative representation of the data in the voice of a typical charter captain (Creswell, 2007). Following guidelines from Creswell (2007), this study included at least two strategies in validating qualitative data. Three were used in this study: prolonged engagement and persistent observation in the field, triangulation, and rich, thick descriptions.

[Insert Table 5 here]

4.3.1. Value-Added Knowledge

“An increase in my level of knowledge about the local history, local culture, and marine environment would enhance my charter fishing trips for my customers.”

In the case of charter fishing, value-added services are elements of a trip that do not directly involve catching fish. They can involve tangible (Amenities) or non-tangible (Knowledge) services and are generally provided at no additional cost to the consumer. As one charter captain said: “Most things you could do extra are fairly cheap.” The captains seemed open to the idea of providing more Value-Added services.

However, most of the captains hesitated to add services if they caused an increase in the cost to the consumer. For example, one respondent said, “I’d be open to suggestions in terms of things we could provide like the food and [knowledge] if we didn’t raise rates.”

Knowledge was a topic discussed by every interviewee. The importance of being educated was evident in many interviews. A variety of knowledge topics, ranging from general area information to education about local ecology and environmental issues, were already being disseminated to customers by captains. Captains felt a strong obligation to be good educators to their customers and 'spread the word' about their area and their livelihood:

> "It's good to have as much knowledge as possible because you're kind of a tour guide

> "It's important to give a well-rounded experience to people, and you can't always expect to catch fish... I feel like it's my duty as a native of the area to educate people on the ecology and what the issues might be with over-development, pollution issues – that kind of thing."

> "[A] concierge process [concerning information about the area] starts on the phone and carries well onto the boat."

If the issues surrounding the logistics of obtaining knowledge can be fixed, most captains would openly embrace the learning process:

> "I'm always into learning stuff and trying stuff, so yeah. I'd like [more]."

> "If there was an offering out there I'd jump on that. I don't know it all…the more I can learn the better I can do my job."

> "Most of my charter trips are not just fishing. Most people want to enjoy the ride. That's usually when we talk about different types of birds and dolphin that we see – whatever is around us. I would love to take a course on that."

In regard to obtaining additional training, captains had differing opinions. The sentiments about training are reflected in the following quote:

> "In my other profession, we have continuing education forced upon us. Often we drag our feet to go but afterwards we've learned something. If you make it mandatory, it's not going to be well received. If it's voluntary, even if it's in the off-season, [you can learn more]."

Future work needs to focus on how to educate charter captains on a variety of topics related to the marine environment in a manner that is sensitive to their learning style and work schedule. It

was clear from the interviews that a vast majority of captains would like to learn more about the marine resource topics encountered in their profession as a means to provide better services to their customers. Since few captains had university-level education in fields directly related to fisheries or marine ecology, the opportunity capacity for captains to add more value to their trips by increasing their knowledge about marine resource management and ecology appears sizeable.

4.3.2. Value-Added Amenities

"There are a variety of amenity-related items that are offered on charter boats in the industry, and individual captains have differing opinions related to the importance of these things to customer satisfaction."

Captains had differing opinions on providing amenities on charter trips. Some felt as if it was the customer's responsibility to bring their own amenities:

> "Everybody is so different in their taste that I can't provide something for everybody."

Other captains were more willing to provide for their customers:

> "I will work with my customer's needs."
>
> "I make it clear that whatever you need [I'll do it]."

However, there was a common frustration among captains: They knew they needed to do something, but were not sure about the best strategies or priorities for providing amenities:

> "I've thought about a higher fee for supplying food and drink, but the issue with that is knowing what each individual customer likes."
>
> "I could do a little more comfort-wise."
>
> "I could do better with services for them. I don't think there is anything I can think of off the top of my head."
>
> "I'm constantly thinking about other things. What can I do that's not going to break the bank? [A better experience] is really what my goal is."

> "I'd love to sell hats and t-shirts…and be able to further merchandize the business, but frankly I don't want to deal with the headache of it."

Barriers to adding value were also related to constraints of the port or marina. For example, "There are no facilities at public landings. How can we fix this?" It appeared that captains were willing to work with what customers wanted, but to add value consistently, they needed better information on customer preferences, cost estimates, and a better idea as to how much value-adding activities could improve the customer experience.

4.3.3. Connecting with Customers

"The more personable and friendly I am as a charter captain, the more my customers will be satisfied, develop a continued interest and love for fishing, and want to return as a repeat customer."

The perception of the interviewees was that the role of a charter captain has changed. No longer was being a good fisherman sufficient. Even among older captains, there was recognition that customer service and emotionally connecting with customers was a key part of being a successful charter captain.

> "The benefit [of good customer service] is going the extra mile to show them we want their business."

> "The whole idea is to make sure the customer enjoys it and comes back next year and tells somebody."

> "It's one thing to go out and catch a fish. It's another to make it an experience that relates to people. It's not about the fish that you catch. It's 100% about connecting with people emotionally and to the place they're in. And they'll come back next year and do the same things – that's the connection we're looking for."

Some captains had a good understanding of how to provide good customer service, but others knew that they needed to improve their customer service. Those who knew improvement was

needed were interested in training, but also admitted to being resistant to the need for added value specific to customer service:

> "Some sort of training about customer service would be very helpful."
>
> "It's an educational process and an entertainment business too. When I first started chartering and I realized it was [a large part] entertainment, I was just beating myself in the head saying 'It's not my job.' My job is to take them out fishing."
>
> "It's about the experience though and it's not up to us to say what real fishing is – it's up to the tourist. It's not just about the fishing and it took me a long time to learn that."
>
> "Customer service training is needed since 50% of charters are entertainment, not fishing."

Although the SC charter captains recognized the value of customer service, understanding which aspects of customer service were most important to customers and how those aspects influence trip demand was still unclear. Considering over 40% of Americans seek word-of-mouth advice of family and friends when shopping for services (Walker, 1995), the customer service aspect of the charter fishing industry cannot be overstated.

4.3.4. Industry Networking

> *"A better networking relationship with the community and other charter boat captains along with an increased support for marketing would increase the success of my business."*

One of the questions during each interview asked captains what type of support would help most. They responded with emphasis on networking issues and lack of marketing relationships with the community and other tourism businesses, which was not surprising given previous research indicating desire for stronger linkages with tourism promotion (Jodice et al., 2010). However, comments from the participants in this study indicated a more specific desire to receive and share knowledge about consumer demands. For example, respondents expressed a general lack of knowledge about the preferences and search behaviors of potential customers:

> "I'd like to know [tourist] spending habits. Is certification important to people in deciding what charter to use?"
>
> "I'd like to know how tourists find the charter boats."
>
> "If somebody comes to this state and are thinking about going fishing or on the boat or water, how do they go about finding out about doing that?"

Captains resoundingly expressed marketing as a challenge in the current charter industry climate, and their frustration was highly evident:

> "Captains need training on business sense and advertising."
>
> "[Understanding] Marketing [techniques] would help creativity and the thought of knowing what ideas [might exist] and how to develop them."
>
> "I haven't had much success marketing…but would like to know if it's me doing something wrong."
>
> "I don't know. If there was something I could have added, I already tried it. I would like to come up with more ideas. Most guides unfortunately don't have the resources."

Finally, the rapidly changing and challenging business environment, including and the lack of consumer knowledge about charter fishing, were concerns expressed during interviews:

> "Customer expectations and [dis]respect for fishing and our business [are] not right."
>
> "Technology is moving too fast for the industry."
>
> "Professionalism is an issue. It takes 5 years to network properly as a captain."
>
> "It's my 27th year doing this and I've seen it totally change from business card advertising around local places…it's all the internet. People used to book [a trip] before they came on vacation. Now, people do that once they get here. It's much more last minute…"

Considering the needs and expectations of clients is an effective strategy toward shaping perceptions and building loyalty to the captain (DeYoung, 1986). For captains, the issue is more about how to consider those needs and expectations and how to reach out to potential customers. The general sentiment was that captains knew they should market to potential customers, but had

no idea what to do or how to execute a marketing plan. Respondents indicated that previous efforts focused on collaborative marketing for the charter fishing industry through formation of a professional organization has occurred in the past, but these organizations eventually disbanded.

4.3.5. Financial Barriers

"The rising cost of operating charter boats has caused the industry to make changes in the type and price of charter trips."

The respondents believed both rising fuel costs and the high cost of insurance significantly affected the bottom line in their industry. Financial sustainability can depend on fuel costs, because, as one captain indicated, it is common for over 120 gallons of fuel to be burned during a full day (12 hour) offshore trip, and a 50 cent increase per gallon of fuel equaled a $60 loss in profit for that trip. Consequently, given that fuel prices were among the most expensive on record during the data collection year (Green, 2012), these costs were a major part of the conversation:

> "Alternative-fueled boats [are the way of the future] – the price of fuel is a huge constraint for the industry."
>
> "Between regulations, taxes, fuel, and other costs, there will not be an offshore charter business in [the town] in 5 years."

Captains also expressed some financial barriers due to competitive pricing among members of the industry:

> "Cut throat pricing [is horrible]. There are a lot of guides out there that will do it for so cheap and the guys that are doing it for the typical rates are scratching our heads."

When discussing the potential to add services or different types of trips to increase business volume, many captains also felt restricted by the current economic climate:

> "The way the economy is, I don't want to kill [customers] with additional fees and things like that."
>
> "I couldn't add anything without going up on the rates."
>
> "I don't think I could add any more because we have such a short period of time to do what we do and we couldn't charge them anymore. We would never [get any customers]."

While pricing is a decision by the charter business, the cost of fuel and economic conditions are beyond their control. Consequently, they can only address their own competitiveness. However, finding ways to adapt to uncertain gas prices or high taxes is challenging. From a tourism standpoint being a sustainable destination community is often at the forefront as a demand-side solution to financial barriers (Papatheodorou, Rossello, & Xiao, 2010). However, without a firm understanding of demand, many respondents expressed no desire to pursue additional loan money for tangible items such as a bigger boat or major improvements to their current boat to attract more customers or improve fuel efficiency. Money was already 'tight' for them, and taking on additional debt was undesirable for a majority of the captains interviewed.

4.3.6. Government Barriers

"Government regulations related to fishing create a negative impact on my ability to run a successful business."

Based on information gathered from SC operators during a recent NOAA socio-economic study (Holland et al., 2012), the expectation was that many captains would indicate that government regulations were a major barrier. While there were strongly opinionated responses regarding the limits that regulations place on profitability, there was more focus on financial barriers. Less than half (49%) of interviewees discussed problems with government regulations during their

interview. Of those who did discuss government regulations, some felt that current regulations were weakening the economic sustainability of the charter industry:

> "You're putting charter captains out of business with these rules from the government."
>
> "They're [government] making it so hard for us to make a living fishing."
>
> "[Government regulations] makes out job very difficult. It makes it difficult. I know folks that have gone out of business as a result."
>
> "I know it's got to be protected but it's give and take. I think they've been doing a lot more taking than giving. We're just trying to make a living."
>
> "We need to get these laws straightened out to where it's not destroying the industry."

Other captains understood the need for government regulations to assure conservation, but recognized the conflict between regulations for conservation and industry survival:

> "I think where they've got it at right now is fine because I know I want [kids] to have fish, but I think that if they stress it more than they have right now they'll be putting more and more people out of business because people will eventually quit fishing."
>
> "If each of us was more educated on the reasoning for [regulations], I think you'd [government] be better received."

Understanding the reasons for and trusting the science behind regulatory decision is critical to the perception of legitimacy and compliance among fishermen (Wilson, 2009). However, adapting their business to new regulatory restrictions was viewed as a significant challenge for these recreational charter operators.

4.3.7. Business Growth

"I offer non-fishing related trips in addition to my fishing charter because it is a necessary way to increase the success of my business."

In terms of business growth, responses widely varied. Some charter captains had begun to provide non-fishing trip experiences as a means to attract customers:

> "If someone has the idea [for a trip] or calls and says 'Can you?' we will. We've never said no."

Some charter captains expressed a preference for non-fishing trips considering the changing environment for the industry:

> "I prefer to provide services for non-anglers."

> "Fishing trips are more pressure. When you're fishing, you better get fish, so I feel more pressure with fishing trips."

For captains who have not yet begun offering non-fishing trips, some were in the planning stage of developing new offerings. The realization that the growth in the industry was in non-fishing trips was evident to some:

> "There's definitively room to grow in non-angling trips. You don't go fast or burn fuel and people just like to have a good time – that's pretty much what it's all about."

> "I'm actually looking into mixing it up and doing more eco-tours and whatnot."

> "I'm not doing it now, but I do plan on offering non-fishing trips."

Finally, on the other end of the spectrum, some captains interviewed were more resistant to changing services. For these captains, they consider themselves fishing charter captains and nothing more:

> "Every once in a while, we'll do [something different], but it's generally a fishing boat."

> "I don't offer cruises to go watch things. I stick to [fishing].

Those respondents who perceived that a variety of external pressures (government regulations, competition, economic climate) have led to the need to become charter captains who offer non-fishing trips to survive may be more likely than others to make the transition. However, those who are more resistant are behaving in a manner that is reflective of the occupational stickiness identified in the fishing industry (Garrity-Blake, 1996). The research team did meet captains who were still able to make a living doing fishing-only trips, but it appeared this approach would be

challenging if the financial and regulatory challenges became worse. While the opportunity exists for this expansion, many of the captains felt they lacked the business acumen to fully take advantage of the opportunity and need to adjust to the current status of the charter fishing and tourism industry.

5. Conclusion

Charter operators on the SC coast face basic constraints that are likely common for any coastal destination where sustainable fisheries are a becoming a priority, operation costs are increasing, and tourism opportunities are expanding. Furthermore, these challenges are likely to be similar to those faced in other coastal regions domestically and internationally. Challenges related to increasing regulatory restrictions on recreational catch are probable due to environmental changes, implementation of sustainable fisheries mandates, application of individual quota systems, or inclusion of recreational fisheries in total allowable catch for a fishery (Eero, Strehlow, Adams, & Vinther, 2015). In addition, many coastal nations have implemented marine protected areas that are no take zones which can result in displacement and higher costs to travel a longer distance to fishing grounds (Chollett, Box, & Mumby, 2016). When these constraints exist, charter operators may consider adapting by increasing their focus on non-angling opportunities either closer to shore or within marine protected areas.

The study provides insight regarding adaptation to these constraints, from the charter operator's perspective, by focusing on the capacity for the saltwater charter fishing industry in South Carolina to provide and expand value-added services. Charter operators believed there was room to grow the industry with value-added products and services, including those that were not

dependent on catching more fish, and they were confident in their knowledge and communication skills for addressing a variety of fishing and non-fishing marine resource topics. However, they viewed their capacity as limited by financial factors – including the costs of fuel, vessel costs, and customer's willingness to pay higher rates, regulatory factors including fishery regulations, personal knowledge and abilities including marketing and networking, business growth strategies, and support for marketing including information on consumer demand, training on marketing, help with networking.

It is important to note the relatively small sample size and response rate may pose a concern about generalizability in the results of this study. For example, only 49% of respondents discussed concerns about government regulations that restrict catch. This low number could be due to a lack of historical knowledge or experience regarding government regulations among the 32.6% of captains interviewed who have been operating a charter boat for less than five years. However, it is not possible to conclude this with any statistical certainty in this study. This is a limitation of this study, which suggests future studies in other coastal areas in the US and internationally are necessary to confirm generalizability of study findings.

While those who did discuss government regulations were strongly opinionated regarding the limits that regulations place on profitability, there was more focus on rising operating costs. The threat of new regulations could either inhibit or motivate investment in new services (i.e., non-fishing; different types of fishing) depending on beliefs about personal competencies and other constraints. For example, charter operators perceive some opportunity to provide amenities that may increase satisfaction for their customers; however, they are unsure about the best amenities

to offer and want to avoid passing on higher costs to the customer. Making small grants or low interest loans available could help stimulate investment in adaptive strategies. In addition, some were resistant to the idea of adding non-fishing related activities, demonstrating potential for some occupational stickiness, which can result in fishermen staying in the business despite economic loss (Garrity-Blake, 1996; Smith, 1981).

In the self-assessment of personal knowledge and skills, charter operators felt sufficient to meet current customer demands, even for non-fishing experiences, but admitted it would be beneficial to have training on some marine resources topics. Very few of the respondents in this study had formal education in fisheries or related fields. Given the results of the self-assessment, it was unclear to what extent operators viewed their personal knowledge and interpretive abilities as constraints or strengths when providing value-added services. Self-assessment of skills and knowledge often results in higher rankings than independent assessment, primarily because respondents fear being judged negatively (Goldstein & Ford, 2002). Objective review of the "messages" being relayed by operators to charter customers would help in determining whether a training program would be valuable, particularly if charter services are part of an integrated marine resource-focused public outreach strategy.

While several charter operators felt they provided excellent customer service, which led to a more successful business, some were not confident in their customer service skills and strategies. Several operators also mentioned problems networking within the tourism industry and keeping up with an ever-changing tourism market. In the past, fragmented and operation specific marketing has been documented for the charter industry (Gartside, 2001); this low level of

collaboration is not surprising given the costs associated with sharing knowledge about fish location (Wilson, 1990). Importance of word-of-mouth recommendations was also mentioned and has been documented for the charter industry in the past (Ditton et al., 1991). Ultimately, the results suggest that collaboration with community development and tourism promotion agencies, focused on addressing marketing constraints, building word-of-mouth networks, and identifying value-added services attractive to consumers interested in offshore experiences, would help the SC charter industry.

More broadly, this research suggests it is inappropriate to assume that adaptation to regulatory constraints on recreational fisheries will be easy for charter operators in other regions or nations. Specifically, managers should expect that several operators will not be open to or have the capacity for adding value which would be attractive to non-angling customers. However, it is important to note that some operators may be willing and have the capacity to add value as a means to adapt. If the goal is to encourage adaptation to increased constraints on catching fish, coastal development managers could contribute to adaptation by providing training workshops on interpretation, marine ecology, and wildlife identification. An added benefit of this approach is assuring that accurate information about the marine environment is relayed to customers (i.e. the public). In addition, it may be necessary to stimulate adaptation through provision of low interest loans or grants in order to financially provide charter operators the means to adapt to the changes occurring in the industry. Institutional structures focused on community development, such as university extension programs in the U.S. and the Fisheries Local Action Group program in the European Union, could assist through such activities by providing leadership for development of training programs and facilitating funding partnerships. The combination of

increasing intangible value-added services through community development-related training workshops and tangible value-added services through financial assistance would provide a well-rounded approach for assisting charter operators with tackling the obstacles they face in adapting to today's current business environment.

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Table 1
South Carolina Charter License Owners and Study Sample Size and Proportion

Region	Total Unique License Owners (N)	Sample Size (n)	Sample Proportion (%)
Myrtle Beach	103	14	13.6%
Charleston	186	15	8.1%
Hilton Head/Beaufort	90	14	15.6%
Total	379	43	11.3%

Table 2
Charter Captain Interview Demographics

Gender		Work Status		Charter Location	
Male	97.7%	Full-Time	60.5%	Inshore	62.8%
Female	2.3%	Part-Time	39.5%	Offshore	37.2%
Age		Education Level		Captain Experience (yrs)	
<30	9.3%	High School Degree	20.9%	1-4	32.6%
30-39	23.3%	Some College	30.2%	5-8	25.6%
40-49	27.9%	College Degree	44.2%	9-12	14.0%
50-59	9.3%	Post-Grad Degree	4.7%	13-16	11.6%
60+	30.2%			20+	16.3%
Mean	46.8			Mean	9.8
Avg. Charter Trip (hrs)		Avg. Charter Trip (miles)			
1-5	53.5%	Less than 10	18.6%		
6-10	30.2%	10-20	34.9%		
11+	16.3%	21-30	20.9%		
		More than 30	25.6%		

Table 3
Comparison of charter operator self-assessment on importance to customer (I) and personal preparation (P) for provision of interpretive skills during a saltwater charter trip off the South Carolina coast. Using Paired t-test.

Interpretive Skill	Scale	Mean	SD	P-I	*t*-Value (*df*=34)	*p*-Value
Relate to the experience level of anglers	I[1]	4.06	1.21	0.43	-2.121	.041
	P[2]	4.49	0.66			
Promote the customer's interest in salt-water fishing	I	4.63	0.55	-0.09	1.000	.324
	P	4.54	0.70			
Develop a clear theme throughout the trip	I	4.03	1.01	0.14	-1.221	.230
	P	4.17	1.07			
Provide opportunities for direct involvement of the customer with local marine resources	I	3.60	1.40	0.17	-1.528	.136
	P	3.77	1.24			
Use multiple styles of communication	I	3.57	1.36	-0.03	.274	.786
	P	3.54	1.29			
Demonstrate actions that are beneficial to marine fisheries sustainability	I	3.94	1.35	0.29	-1.240	.223
	P	4.23	1.11			
Discuss the relationship between the customer and the local marine resources	I	3.51	1.29	0.23	-1.349	.186
	P	3.74	1.12			
Tailor messages to different types of user groups	I	3.77	1.03	-0.09	.649	.521
	P	3.69	1.21			
Engage customers on an emotional level	I	3.83	1.22	0.03	-.239	.812
	P	3.86	1.19			

[1] Scale: 1=Not Important, 2=Slightly Important, 3=Moderately Important, 4=Important, 5=Very Important; [2]Scale: 1=Not Prepared, 2=Slightly Prepared, 3=Moderately Prepared, 4= Prepared, 5=Very Prepared.

Table 4
Comparison of charter operator self-assessment on importance to customer (I) and personal preparation (P) for knowledge related to provision of ecotourism and other marine natural and cultural history services during a saltwater charter trip off the South Carolina coast. Using Paired t-test.

	Knowledge Area	Scale	Mean	SD	P-I	*t*-Value (*df*=30)	*p*-Value
a.	Reasons for recreational fishing regulations	I[1]	4.06	1.09	0.55	-2.655	.013
		P[2]	4.61	.62			
b.	Reasons for reporting catch to DNR	I	3.29	1.44	1.19	-4.745	.000
		P	4.48	.72			
c.	Environmental factors affecting the number of fish	I	3.45	1.31	0.97	-3.364	.002
		P	4.42	.92			
d.	Best practices for catch and release	I	3.77	1.20	1.00	-4.496	.000
		P	4.77	.50			
e.	Fish anatomy	I	3.03	1.28	0.61	-2.906	.007
		P	3.65	1.02			
f.	Fish identification	I	4.26	.93	0.26	-1.609	.118
		P	4.52	.57			
g.	Fish population biology	I	3.23	1.20	0.90	-3.276	.003
		P	4.13	.88			
h.	Fish ecology	I	3.39	1.05	0.74	-3.268	.003
		P	4.13	.96			
i.	Fish diseases and parasites	I	2.84	1.29	0.45	-1.916	.065
		P	3.29	1.35			
j.	How to clean, prepare and cook fish	I	4.00	1.06	0.65	-3.147	.004
		P	4.65	.66			
k.	Marine safety - best practices	I	3.77	1.18	0.97	-4.854	.000
		P	4.74	.58			
l.	How science informs management decisions	I	2.74	1.18	0.97	-3.661	.001
		P	3.71	.97			
m.	Fisheries management decision-making process (how rules are set, who is involved)	I	2.61	1.26	1.06	-3.884	.001
		P	3.68	1.22			
n.	Local commercial fishing industry (boats, gear, target species, by-catch, sustainability)	I	3.16	1.13	0.68	-2.899	.007
		P	3.84	1.07			
o.	History of the local fishing community	I	3.55	1.09	0.45	-2.244	.032
		P	4.00	1.13			
p.	Local history & culture (e.g., civil war, Gullah, storm events)	I	3.42	.96	0.39	-2.555	.016
		P	3.81	1.14			

	Knowledge Area	Scale	Mean	SD	P-I	*t*-Value (*df*=30)	*p*-Value
q.	Identification of other marine animals (e.g., sea cucumbers, jellyfish, crabs, clams)	I	3.74	1.03	0.32	-1.718	.096
		P	4.06	.89			
r.	Identification of marine plants & seaweeds	I	3.06	1.18	0.23	-.960	.345
		P	3.29	1.27			
s.	General marine ecology	I	3.23	1.09	0.48	-2.468	.020
		P	3.71	1.10			
t.	Marine mammal identification & ecology	I	3.65	1.02	0.35	-2.006	.054
		P	4.00	1.13			
u.	Marine bird identification & ecology	I	3.32	1.05	0.13	-.611	.546
		P	3.45	1.41			
v.	Marine pollution issues	I	3.39	1.20	0.55	-2.241	.033
		P	3.94	1.18			
w.	Marine & coastal geology	I	3.06	1.09	0.48	-2.540	.016
		P	3.55	1.15			
x.	Physical oceanography (tides, currents, water temperature, wind, waves)	I	3.45	1.31	1.16	-4.999	.000
		P	4.61	.67			
y.	Marine aquaculture development in region	I	2.58	1.26	0.71	-2.935	.006
		P	3.29	1.27			
z.	Offshore energy development (oil, wind)	I	2.52	1.06	0.32	-1.056	.299
		P	2.84	1.37			
aa.	Sea-level rise	I	2.48	1.06	0.48	-2.182	.037
		P	2.97	1.30			
bb.	Marine protected area management	I	2.84	1.34	0.65	-2.930	.006
		P	3.48	1.29			

[1]*Scale: 1=Not Important, 2=Slightly Important, 3=Moderately Important, 4=Important, 5=Very Important;*

[2]*Scale: 1=Not Prepared, 2=Slightly Prepared, 3=Moderately Prepared, 4= Prepared, 5=Very Prepared.*

Table 5
Frequency of themes and topics mentioned by respondents (N=43)

Themes and Topics	%
Theme: Potential for Value-Added Services	
Topic 1: Knowledge	100
Topic 2: Amenities	100
Theme: Customer Service	
Topic 3: Connecting with Customers	93
Theme: Marketing	
Topic 4: Industry Networking	79
Theme: External Barriers	
Topic 5: Financial	74
Topic 6: Government	49
Theme: Business Survival	
Topic 7: Business Growth	86