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Assessing the Effectiveness of Online Focus Groups Versus In-person Focus Groups

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ASSESING THE EFFECTIVENESS OF ONLINE FOCUS GROUPS VERSUS IN-PERSON FOCUS GROUPS

by

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ABSTRACT

Increasingly researchers are turning to online focus groups as a qualitative research method, yet rigorous methodological studies regarding the quantity, quality and diversity of the data generated relative to traditional in-person focus groups are limited. This study experimentally tests the idea generation capabilities of online text-based focus groups versus traditional in-person focus groups using sustainability in the hospitality industry as the idea generation topic. Participants were purposively sampled from the hospitality program at a large Southeastern university and randomly assigned into one of two treatment groups: online text-based or traditional in-person focus groups. The in-person focus groups resulted in a larger word count, and a higher number of ideas generated, although both in-person and online generated an equivalent number of unique ideas. The online focus group generated a comparable average quality of ideas and number of good ideas. There was a high degree of overlap in themes generated by both groups. The results show that online focus groups are capable of generating a comparable level of idea quantity, quality and diversity relative to in-person focus groups.

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GENERAL INTRODUCTION

In order to properly address the research question this dissertation has been structured into three separate, yet interrelated papers, as opposed to traditional dissertation chapters. In researching the effectiveness of online focus groups versus in-person focus groups it became clear that while prior research had taken place, there was a demand for a methodologically rigorous study employing random assignment to determine the comparative value of online versus in-person focus groups. Furthermore the opportunity existed to go beyond the measurement of solely quantity (as had been done in previous studies) and compare the two data collection methods in terms of quality as well. Finally given that the online focus group was conducted via an online platform that might not be familiar to researchers the opportunity existed to provide researchers with a walkthrough on how they could benefit from using the online platform for their own research. As a result this dissertation has been formatted into three papers, with summaries provided below, focusing on the quantity and quality of ideas generated by online focus groups, in addition to a walkthrough of how and why online platforms can be used to conduct online focus groups.

Paper One: In-person versus online focus groups: A comparison of data diversity

In the first paper the quantity and diversity of ideas generated from two different types of focus groups (i.e. in-person and online) are explored. If online focus groups can generate a comparable output (i.e. idea diversity) to that of in-person focus groups at a lower cost, an argument can be made for their use by researchers and firms. Yet previous studies that have investigated the comparison have been limited methodologically (i.e. non-random assignment) and in their practical implications (i.e. measuring word count and idea quantity but not the

diversity of ideas). Therefore, the need continues to exist to compare the diversity of idea generation in online versus in-person focus groups with a research design incorporating random assignment to strengthen the validity of the results.

In order to accomplish this goal, the outputs from both sets of focus groups were transcribed with total word counts calculated. The number of ideas, both initial and unique, was determined for both online and in-person focus groups. Finally all of the generated ideas were coded via a thematic content analysis. Keywords and themes were applied by the researcher to the ideas. The total number of keywords and themes in each treatment group in addition to the overlap between keywords and themes was calculated and discussed. The results showed that online focus groups are capable of generating a similar level of data diversity (i.e. number of themes) as in-person focus groups.

Paper Two: In-person versus online focus groups: A comparison of data quality

In the second paper the quality of the ideas generated from two different types of focus groups (i.e. in-person and online) was explored. Previous studies have focused primarily on the quantity not the quality of ideas generated. This is in contrast to the value that an idea delivers to a firm. A firm would prefer one outstanding idea to a plethora of mediocre ideas. As a result a need exists to investigate the value of ideas generated by online versus in-person focus groups. To accomplish this goal ideas generated by the focus groups were sent to expert raters who reviewed the value of each idea by assessing its novelty, usefulness and feasibility. Interrater reliability was calculated to determine the precision of the ratings. Averaged scores were analyzed using t-tests to determine if statistically significant mean differences exist between the two treatment groups in terms of idea quality. Finally the number of good and great ideas for

each group was calculated and compared. The results showed that online focus groups are capable of generating a similar level of data quality as in person focus groups.

Due to the hierarchical nature of the data, more robust analyses were also explored via multi-level modeling. The data was restructured so that outcome variables (i.e. novelty, usefulness and feasibility) were nested within raters, within unique ideas, within participants, with focus group type and other participant information treated as potential predictor variables. Multi-level models, including null and fixed effects, were tested for all outcome variables using Proc Mixed and Proc Glimmix procedures in SAS. The Proc Mixed two level null models failed to find a significant relationship where rater was the highest level. As a result the outcome variables were again averaged, and Proc Glimmix three level models were constructed with averaged ratings nested within unique ideas within participants. In the full model with fixed effects the unique ideas level was shown to be significantly related to all outcome variables, with hospitality experience as a significant predictor variable for usefulness. In all three models the experimental group (i.e. focus group type) was not found to be a significant predictor variable further reinforcing the ability of online focus groups to deliver a consistent level of quality when compared to in-person groups using a more robust multi-level analysis.

Paper Three: Online focus groups: How (and why) to use them for your research

In the third paper the researcher provides the readers with a walkthrough of both why and how they can use an online platform to successfully conduct online qualitative research. The benefits of using an online platform are discussed including its lower cost, participant's preference for asynchronous text-based discussions, and platform functionality that allows for the organization of participant contributions. The paper then walks the reader through setting up an example online focus group detailing the procedure and the exact steps that need to be taken.

Providing an overview of the data collection process will assist in the replication of the results of these studies in addition to enabling other researchers to more easily conduct proposed future research opportunities. Conducting an online focus group is not without its challenges. It requires the researcher to be internet savvy and familiar with online platforms and data collection. Given the potential value of online focus groups to produce a similar output in terms of idea quality and diversity as in-person focus groups at a lower cost, this walkthrough should assist researchers in experimenting with a new valuable data collection method.

IN-PERSON VERSUS ONLINE FOCUS GROUPS: A COMPARISON OF DATA DIVERSITY

Abstract

Increasingly researchers are turning to online focus groups as a qualitative research method, yet rigorous methodological studies regarding the diversity of the data generated relative to traditional in-person focus groups are limited. This study tested the diversity of ideas generated as a function of focus group type (i.e. online versus in-person). A total of 46 participants took part in idea generation sessions in which they were randomly assigned into one of the two treatment groups. The in-person focus groups resulted in a larger word count, and a higher number of ideas generated, although both in-person and online generated a similar number of unique ideas. In terms of unique keywords approximately 15% occurred in both treatment groups representing 48% of all keywords generated from participant contributions. There was also a high degree of overlap in themes generated by both groups. Out of a total of 17 themes, 14 (82%) occurred in both treatment groups. The overlapping themes represented 93% of all keywords generated across both groups. The results show that online focus groups are capable of generating a comparable level of idea diversity relative to in-person focus groups.

Key words: Qualitative methods, focus groups, online focus groups, content analysis, idea generation

Introduction

Qualitative research accounts for over $6.4 billion in global market research spent annually. While a majority of qualitative spend is still focused on traditional in-person focus groups ($4.4

billion), the personal computer, mobile devices, internet and social media, all ubiquitous in today's society, have collectively enabled the growth of online qualitative data collection ($800 million annually) (ESOMAR, 2014). Increasingly online focus groups are becoming a more popular and accepted method for collecting qualitative data (Synnot, Hill, Summers, & Taylor, 2014; Wilkerson, Iantaffi, Grey, Bockting, & Risser, 2014; Woodyatt, Finneran, & Stephenson, 2016). Online focus groups possess several inherent advantages over traditional in-person focus groups that have encouraged both researchers and participants to engage in the data collection method. For researchers online focus groups represent a cheaper and easier alternative to in-person focus groups (Schweitzer, Buchinger, Gassmann, & Obrist, 2012) whereas participants appreciate the convenience of choosing both the time and place of when and where they will contribute (Zwaanswijk & van Dulmen, 2014). While usage of online focus groups has increased, rigorous research focused on evaluating the comparative quality of online to in-person focus groups is still sparse (Woodyatt et al., 2016). As a result, it is imperative that researchers empirically investigate online focus groups to better provide researchers with recommendations for their usage as a valid qualitative data collection method.

Focus groups are a tried-and-true qualitative data collection method having been conducted over several decades and a multitude of fields (Kitzinger, 1995; Powell and Single, 1996; Murgado-Armenteros, Torres-Ruiz, & Vega-Zamora, 2012). In-person focus groups are valued as a group interview variant that encourages discussion between the participants, a feature lacking from individual interviews. Participants infuse their contributions with feelings and attitudes, sharing personal experiences and exchanging stories from their unique perspective. Focus groups allow researchers the ability to collect rich qualitative data that would be difficult to replicate using other data collection methods (e.g. surveys) (Kitzinger, 1995). Focus groups

have been employed historically to solve a variety of marketing challenges including: generating hypotheses, exploring opinions and attributes, and developing new product ideas (Fern, 1982; Stewart & Shamdasani, 2014). Focus groups are not without their limitations though, as they lack anonymity, are limited in the number of participants they can accommodate and can be relatively expensive to conduct (Gammie, Hamilton, & Gilchrist, 2017).

In recent years researchers have been experimenting with online focus groups in part because of their ease of use and lower cost and also because of their ability to minimize some of the limitations inherent in traditional in-person focus groups (Schweitzer et al., 2012; Ybarra, DuBois, Parsons, Prescott, & Mustanski, 2014). Compared to in-person focus groups their online equivalent can be conducted irrespective of physical location. In an online focus group researchers can forgo finding a centralized meeting place, reserving the location and preparing it with the proper seating, materials, and recording equipment. Furthermore text-based online focus group contributions can be asynchronous (i.e. separated in time) allowing participants the ability to contribute at a time of their choosing. Participants appreciate the flexibility in time and place afforded to them by online focus groups and as a result report a preference for participating in online focus groups rather than in-person (Zwaanswijk & van Dulmen, 2014).

One of the most valuable features of an online focus group is its ability to be conducted anonymously in which none of the participants is aware of the identity of a fellow participant. Participants' voluntary choice to remain anonymous, through the usage of usernames and avatars, offers a sense of protection from reprisal. Research has shown that when participants are anonymous they self-report lower levels of social anxiety and social desirability and are more likely to have higher self-esteem (Joinson, 1999).

How participants perceive their thoughts and beliefs will be interpreted by others, whether it be unspoken or as written or verbal feedback, ultimately affects what the participants will choose to share and make public. As a result anonymous participants feel a greater sense of comfort when contributing and may be more willing to ask "foolish" or unpopular questions that they would otherwise avoid asking for fear of mockery (Aiken, Krosp, Shirani, & Martin, 1994). It is therefore reasonable to assume that with this greater sense of comfort and willingness to share participants in an online focus group should be able to achieve a greater diversity of responses relative to in-person focus groups.

Several researchers have sought to experimentally compare the outputs from in-person and online focus groups in an effort to determine their relative value and to provide recommendations to their fellow researchers and firms considering engaging in one of the two data collection methods. Synnot et al. (2014) compared the qualitative outputs of a series of in-person focus groups versus an online forum. Twenty-seven participants each took part in one of four focus groups, with those not being able to attend in-person (33 participants) taking part in an online forum. The researchers found a high degree of overlap in the themes (i.e. diversity) generated by both of the treatment groups, deeming that both methods of data collection yielded generally comparable information. Crucially though the study did not employ random assignment instead letting the participants self-select into the treatment group. As a result the equivalency of the treatment groups could not be guaranteed limiting the study methodologically.

Similarly Woodyatt et al. (2016) conducted two in-person and two-online focus groups examining the resulting differences in data quality between the two data collection methods. Like the study by Synnot et al. (2014) participants were able to self-select into either of the two

treatment groups based upon their preference and availability. The results, similar to previous studies, showed that while in-person participants tended to talk more with longer responses (e.g. larger word counts) their contributions were less focused and on-point when compared to online participants. As a result the online focus groups were able to achieve a similar number of thematic codes as the in-person focus groups. Of the 27 thematic codes identified in all of the focus group sessions, 25 were identified in both types of focus groups, overall a high degree of theme overlap.

While both studies confirmed the ability of online focus groups to deliver an equivalent diversity of ideas, both studies also admit the limitation of allowing the focus group participants to self-select into the treatment group of their choice based on availability and preference. The random assignment of the participants is important as it both strengthens the internal validity of the study and represents a methodological gap in the literature. As a result there exists the need to compare the quality of in-person versus online focus groups using a rigorous experimental design employing random assignment.

This paper experimentally tests the comparative diversity of ideas generated from online versus in-person focus groups. Sustainability, a popular topic among researchers and the public (Myung, McClaren, & Li, 2012), is used as an idea generation topic. Participants were purposively sampled from a large Southeastern university and were randomly assigned into one of two treatment groups. An online focus group was conducted via Reddit (an online platform), with an equivalent number of participants invited to a series of four in-person focus groups. Relevant contributions were identified and idea summaries were created, validated by an external researcher. A content analysis was conducted associating keywords with idea summaries from

which themes were identified. The results, similar to previous studies, show a high degree of overlap in themes between online and in-person focus groups.

Methods

Participants

The researcher designed an experiment in which the idea diversity of online versus in-person focus groups could be measured employing random assignment of participants to treatment groups. Institutional Review Board approval was received for the study. Participants were sampled from the hospitality program at a large Southeastern University. Extra credit was offered to potential participants an incentive to enter into the study. An alternate assignment was created and offered to those potential participants who did not wish to participate in the experiment.

A short online survey was provided to those students who were interested in participating. The online survey, conducted via Qualtrics, asked potential participants to provide: age, sex, academic level and program, the number of years they had been employed, and the number of years they had been employed within the hospitality industry. Participants were also asked to provide availability for in-person focus group times, to be held on the university campus, with times chosen by the researcher to best accommodate potential participants availability.

Procedure

A total of 461 undergraduate students were invited to participate, of which 91 students (20%) completed the initial survey, a response rate that, while low, does fall within the range found within a response rate meta-analysis study (Baruch & Holtom, 2008). Participants were assigned to treatment groups via stratified random assignment, stratified based on sex and employment tenure, covariates that previous studies had shown to have an impact on participant's creativity (George & Zhou, 2007; Zhang & Zhou, 2014). Stratified random assignment has been recommended for sample sizes where N is less than 100 (Lachin, Matts, & Wei, 1988) and there is a perceived necessity to control for potential covariates (Conlon & Anderson, 1990; Suresh, 2011).

Those participants who were assigned to an in-person focus group and who could not attend based on their stated availability were re-assigned, along with an equivalent number of randomly selected participants from the online treatment group, to the alternate assignment. A total of 72 participants (36 online vs. 36 in-person) were assigned to the two treatment groups. As a result of the stratified random assignment the two treatment groups were relatively similar in sex (78% female for in-person vs. 81% female for online), and average professional hospitality experience (3.3 years for in-person vs. 3.4 years for online). Relative to the treatment groups, the overall population of the hospitality college at the large southeastern university was 75.3% female and 24.7% male, roughly comparable to the study sample. Of the 72 participants assigned to groups, 46 completed the experiment (10% of the invited participants), resulting in final participant counts of 25 online and 21 in-person.

Four in-person focus groups, each lasting 60 minutes each, were conducted on the university campus. Each focus group was comprised of a small number of participants,

consistent with previous studies (Synnot et al., 2014; Woodyatt et al., 2016), and recommended as a best practice (Krueger & Casey, 2014; Liamputtong, 2011). Audio and video was recorded via camcorders and saved for future analysis. Participants were instructed that all information was confidential and that personal identifiers would be removed. Focus group ground rules were reviewed and the idea generation question was provided to the participants.

An online focus group was conducted via Reddit, an online platform with the ability to anonymously host an online discussion, highlighted in previous studies for its value in online qualitative data collection (Shatz, 2016). A private "subreddit" (e.g. forum) was created called "r/datacollection" only accessible to the researcher and Reddit users approved by the researcher. Anonymous Reddit usernames and passwords were created and individually emailed to each online focus group participant in addition to the start time, end time and web address of the online focus group session.

Idea generation question

Both treatment groups received the same idea generation question at the beginning of the focus group session. In this study the responses provided by participants which seek to resolve the researcher provided question are considered to be "ideas" (Smith, 1998). The question was modified from an idea generation question used in a previous study (Girotra, Terwiesch, & Ulrich, 2010). The previous topic, new product development for dorm rooms, was modified to focus on new sustainable practices in the hospitality industry:

> A hotel chain has retained you to identify new or improved sustainable hotel practices. The hotel chain (for example, Marriott, Hilton, Holiday Inn) is interested in "going green" and seeks practices likely to appeal to environmentally friendly guests. These practices might be solutions to unmet needs or improved solutions to existing needs (modified from Girotra et al., 2010, p. 598).

After providing the question to participants the researcher emphasized the broad nature of the idea generation exercise, emphasizing that all ideas on “going green” were welcome, that they could be inspired by any of their experiences, that they could relate to any part of hotel operations and that all ideas were welcome.

Data Analysis

In order to assess the diversity of the ideas generated by the two treatment groups the in-person data was first transcribed verbatim into text files. The online focus group data, being text-based, was already in a format appropriate to transfer into text files. The total word count of each treatment group, with and without moderator text, was recorded. The data was reviewed by the researcher with segments containing potential ideas flagged and transferred into an excel workbook. Similar to previous studies (Synnot et al., 2014; Woodyatt et al., 2016) the ideas generated were often verbose containing redundant and off-topic information. As a result the researcher considered generating idea summaries reducing each idea down to only relevant information.

Prior studies that assessed idea generation quality made no mention of cleaning or summarizing ideas (Girotra *et al.*, 2010). While the manipulation of qualitative data carries with it the potential risk of introducing bias, verbose ideas with off-topic content may also lead to

inaccuracies in keyword and thematic analysis. Ultimately it was decided that reducing reviewer fatigue and improving the accuracy of reviewer scores was more important than preserving the structure of the original participant submissions. The reviewer created idea summaries for each contribution removing redundant and off-topic information. To minimize reviewer bias the researcher took the precaution of recruiting a knowledgeable external reviewer, a hospitality PhD student, to compare the original idea submitted by the participant with the idea summary generated by the researcher. Idea summaries were rated for accuracy on a scale from 1 to 5 with 1 being not at all accurate and 5 being very accurate. The external reviewer's first assessment of the ideas and their corresponding summaries resulted in over 90% being rated as a 4 or above. The researcher next worked with the external reviewer to better understand the source of the error for those summaries not rated a 5. Underperforming idea summaries were revised and re-reviewed until they reached a score of 4 or higher for accuracy. A final review resulted in 88% of the idea summaries rated as a 5, with the remaining 12% rated as a 4.

The researcher conducted a content analysis on the idea summaries. While it is often preferable to use multiple coders for content analysis, due to the unique nature of the study, with the ideas generated corresponding to existing hotel divisions, the researcher decided to conduct the process individually. Multiple levels of coding were conducted, based on the principles provided by Glaser and Strauss (1967) and Miles and Huberman (1984), and following the phased detailed by Braun and Clarke (2006). The researcher, having moderated both the in-person and online focus groups had already obtained a familiarity with the data, further reinforced by reading through the transcripts and idea summaries. Next the idea summaries were coded with keywords. Generated keywords were organized and assessed for similarities leading to another round of keyword coding to ensure keyword consistency across all of the idea

summaries. Meaningful groups (Miles and Huberman, 1984) were identified using existing hotel operational areas (e.g. Rooms, Front Desk, Housekeeping, Food & Beverage, Sales & Marketing) as a guide (O'Fallon and Rutherford, 2011).

Results

Word Count

To accurately calculate participant word count moderator text were removed from consideration from both sets of transcripts. Overall the in-person focus groups tended to have longer responses and in general talked more often than their online focus group peers. As a result the word count was substantially higher for the in-person focus groups (27,807 words for in-person vs. 10,681 for online). The longer responses were often a result of participants providing a greater level of detail in their contributions including personal experiences, thoughts and observations, potential resulting in richer data. Their responses though also tended to be more loosely structured with more off-topic discussion and idea repetition.

For example the idea of creating an on-site garden to distribute fruits, vegetables and herbs to hotel restaurants was discussed within both focus group types. In the in-person group the participant referenced a hotel where they knew the practice was occurring, and then transitioning to how they had discussed the idea with their hotel leadership, before finally noting the potential benefits to guests.

> I know the Ritz Carlton does that, the Ritz Carlton right there they have like an acre farm like on property because they have so much land and a lot of the ingredients used in a lot of the restaurants is grown on property I'd like tried convincing my executive chef to do that are property like I really want to see like a small like herb garden you know like because we have like an outdoor patio and just have useless ferns out there and I'm like you can literally plant like you know some basil plants and some mint and some rosemary and stuff like that and like you know it's like ok you save money and costs, you'll its literally like it's a nice, I want to say amity to the guests but it's a nice like invitation I guess because you can be like they go like you know go away outside like while you're waiting for a table and these are all the herbs that our bar uses for the drinks and our kitchen uses for their dishes (In-person focus group 1, participant 113)

In general, as opposed to in-person focus groups, online focus group responses were more clear, concise and on-topic. As a result a trade-off was that the richness of the data could potentially suffer. In the following example the online focus group participant introduces the idea and succinctly highlights the benefits the idea could bring to a hotel.

> Building an onsite garden, this would help hotels that operate or host restaurants. On site growing cuts sourcing costs and provides visual confirmation to guests that some of the food they are eating is grown local (Online focus group, participant 35)

While there are many ways to value qualitative data, including the richness of the data, following the example of previous studies (Synnot *et al.*, 2014), this study focuses on the number of ideas generated and the diversity of those ideas based on a thematic analysis.

Idea Count

In terms of ideas generated, once again the in-person focus groups with their greater word count were more successful. Overall the in-person focus groups generated 144 total ideas compared to the 137 ideas generated by the online focus groups. While the in-person focus groups were able to generate 5% more ideas, this was based on having 260% more total words in comparison to online focus groups. Therefore from an efficiency standpoint (e.g. ideas

generated per words written) the online focus group was more efficient (.013 vs. .005). Although the online focus group participants used fewer words in generating ideas, and subsequently generated less ideas, critically both groups were equivalent in the number of unique ideas generated (105 in-person vs. 106 online).

Keywords

In terms of keywords generated, the coding of in-person focus group participant submissions resulted in 275 keywords (118 unique) with online focus groups resulting in a total of 309 keywords (127 unique). Online focus groups therefore had 12% more total keywords, and 8% more unique keywords. Looking across focus group types there were a total of 584 keywords assigned to participant submissions. Of these 584 assigned keywords, 213 were unique across both groups (36%). Of the 213 unique ideas, 31 (15%) were observed as occurring in both in-person and online focus groups. These 31 keywords observed in both groups (see Table 1) occurred a total of 278 times (across both groups) resulting in shared keywords representing 48% of all keywords assigned to participant submissions (278/584). Keywords in both groups represented a diverse selection of hotel in-room features (e.g. key cards, towels, toiletries, thermostat), hotel property areas (e.g. garden, restaurant, parking), front desk processing (e.g. paperless, messaging, electronic, kiosk), and operational improvements (e.g. lights, electricity, cleaning supplies, motion-detectors).

Table 1. Keywords shared across both focus group types

Keyword	Count	% all Keywords
Key Card	25	4.3%
Recycling Bin	23	3.9%
Paperless	22	3.8%
Messaging	16	2.7%
Motion-Detectors	14	2.4%
Toiletries	13	2.2%
Towels	12	2.1%
Garden	11	1.9%
Restaurants	11	1.9%
Green Energy	11	1.9%
Electricity	10	1.7%
Permanent Dishware	10	1.7%
Re-Use	10	1.7%
Thermostat	10	1.7%
Dispensors	9	1.5%
Electronic	9	1.5%
Lights	7	1.2%
Recycling	7	1.2%
Cleaning Supplies	7	1.2%
Mobile	6	1.0%
Sink	4	0.7%
Email	4	0.7%
Showers	4	0.7%
Programmable	4	0.7%
App	4	0.7%
Parking	3	0.5%
Toilet	3	0.5%
Timers	3	0.5%
Kiosk	2	0.3%
Charity	2	0.3%
Air Conditioning	2	0.3%

Idea Diversity

Based on the thematic analysis conducted on the keywords associated with the ideas generated from both treatment groups, both groups had a roughly equivalent number of thematic codes generated, although with some significant differences. In total the in-person focus groups generated 9 thematic codes, while the online focus group generated 8 (see Table 2). A high degree of overlap existed between the two groups with 7 codes in each group matching (Food & Beverage, Front Desk, Grounds, Housekeeping, Property, Rooms and Sales & Marketing). These 7 codes represented 93% of all the keywords associated with participant submissions. Separately, the in-person focus group had two unique themes (Events and Spa), while the online focus group had one unique theme (Human resources). These unique themes in total represented 7% of the keywords generated.

Table 2. Themes by focus group type

Themes	Keyword Count	% all Keywords
In-person		
Rooms	81	13.9%
Housekeeping	46	7.9%
Property	36	6.2%
Front Desk	27	4.6%
Food & Beverage	21	3.6%
Grounds	17	2.9%
Sales & Marketing	11	1.9%
Events	33	5.7%
Spa	3	0.5%
Online		
Rooms	87	14.9%
Property	65	11.1%
Front Desk	46	7.9%
Housekeeping	42	7.2%
Food & Beverage	36	6.2%
Grounds	24	4.1%
Sales & Marketing	2	0.3%
Human Resources	7	1.2%

Idea Diversity by Participant

Given the high degree of overlap between the themes generated by both groups, but also the presence of themes unique to both groups, it was worthwhile to investigate how themes were generated by participants. Were non-unique and unique themes generated by a majority or only a handful of participants? In the case of overlapping themes (7 in total) all had six or more participants contribute to their creation, with the lone exception of Sales & Marketing within the online group which had only one participant (see Table 3). Within the in-person focus group an average of nine participants contributed to an overlapping theme (ranging from 6 to 14), while online focus groups had an average of 11 participants contributing (ranging from 1 to 20).

Table 3. Themes by participant count

Themes	Participant Count	Overlap
In-person		
Rooms	14	Yes
Property	11	Yes
Front Desk	10	Yes
Housekeeping	10	Yes
Food & Beverage	7	Yes
Grounds	6	Yes
Sales & Marketing	6	Yes
Events	9	No
Spa	1	No
Online		
Rooms	20	Yes
Food & Beverage	15	Yes
Property	14	Yes
Front Desk	12	Yes
Housekeeping	11	Yes
Grounds	6	Yes
Sales & Marketing	1	Yes
Human Resources	3	No

Within the in-person focus groups there were two unique themes, events and spa. The events theme was broadly contributed to by nine participants; while the spa theme was only generated from one participant. The spa ideas were focused on reducing waste related to spa experiences that the participant appeared to have experienced. For example the participant's idea related to cotton ball usage at spas and salons:

> I think they also waste a lot of cotton when they are taking off the nail polish. So maybe they can, cause I know there is a little container that people stick their figure in and they twirl it around and the nail polish comes off. So maybe like that would help them a lot instead of using cotton (Focus group 3, participant 134)

The event theme on the other hand was a relatively broad collection of ideas based on weddings, banquets and general events hosted at weddings. It appears that contributions were spurred by participants contributing their experiences of working in events in addition to participant's general experiences with weddings. It is unclear why this theme was not present within the online group. It is possible that as the instructions were written and not verbally provided to the participants that the event space was an overlooked area of the hotel industry.

Within the online focus group the standalone unique theme was human resources which was contributed to by three participants. These ideas all focused specifically around training to hotel staff. For example one participant noted the opportunity to reduce waste by better training housekeepers.

> I have found that while hotels try to "go green" by asking guests to reuse towels or place them on the ground for new ones, it often backfires. If housekeeping isn't properly trained in green housekeeping, they will replace the towels that are hung up as well. I have gotten multiple calls from guests who were disappointed to see that their reusable towels had been replaced. This reflects negatively on the hotel. I think that the first step to going green is to properly train staff in green practices (Online focus group, participant 5)

While this idea does relate specifically to housekeepers and could have conceivably been themed as such, it was perceived by the researcher to belong to a separate theme due to the training aspect.

Discussion

With the growth in online qualitative data collection and the use of online focus groups by researchers it is imperative that online focus groups be assessed for their ability to deliver an at least equivalent level of data diversity when compared to in-person focus groups. Previous researchers have found on numerous occasions a level of consistency in the number of thematic codes generated by the two focus group types although critically by employing experiments that lack random assignment. This study seeks to strengthen the literature by offering another data assessment of the relative strength on online focus groups when conducted via an experiment with random assignment to treatment groups.

In assessing the total word count by focus group type it is clear that the in-person focus groups were able to generate a significantly higher volume of words (27,807) when compared to online focus groups (10,681). This finding however is consistent with past research. Woodyatt et al. (2016) found that in-person focus groups outperformed online focus groups in word count (15,907 vs. 4,981). At 319% more words Woodyatt's findings compare favorably with the results of this study in which in-person groups generated 260% more words.

For thematic count this study again compared favorably with prior studies in terms of a comparable count of themes generated and a high degree of overlap between the themes across the two treatment groups. At a total of 17 themes, with seven in both overlapping, a full 82% of

the themes were consistent between online versus in-person focus groups. In Woodyatt et al.'s study (2016) of the 27 thematic codes identified, 25 appeared in both treatment groups, resulting in a similar overlap percentage of 93%. Furthermore these 14 shared themes represented over 93% of all keywords associated with participant's contributions.

A thematic breakdown by participant count of the data showed that almost all of the overlapping ideas were contributed to by at least six participants (roughly 25% of the participants). This finding reinforces the ability of the two different focus group types to generate a similar set of responses in terms of thematic diversity. Within the themes unique to each group only three were identified (i.e. Events, Spa, and Human Resources). Of those two of them (Spa and Human Resources) were more restricted in their number of contributors (1 and 3 respectively), while Events was the only unique theme with broad support from a total of nine participants within the in-person focus groups.

Limitations

One limitation that could affect the internal validity of the study was the inconsistent level of control that was exerted by researchers over the treatment groups during the experiment. While the in-person focus groups were directly moderated by the researcher who was present during the entire focus group session, the online focus groups on the other hand were conducted with the participants contributing remotely from a time and location of their choosing. As a result the researcher was not able to monitor the actions of those participants that were in the online focus groups. One limitation that could affect the external validity of the study is the ability to generalize beyond the participants and idea generation topic. This study used participants drawn

from the hospitality program of a large university in the Southeastern United States. The idea generation topic was focused on sustainability in the hospitality industry.

Conclusions

Market research is big business. Over $40 billion is spent annually by firms around the globe on market research (ESOMAR, 2014). A substantial minority of that funding goes to qualitative research, specifically traditional in-person focus groups. Interest for and investment in online focus groups though is growing. Given the ability to conduct online focus groups cheaper and easier than in-person groups it is a tempting data collection method for firms and researchers. Researcher favorability is compounded by participant preference. Potential participants prefer the ability to contribute to a focus group in a time and place of their choosing.

The results of this study help to substantiate and reinforce the findings from previous studies. By employing an experimental design with random assignment the researcher has added a study to the field with a higher level of methodological rigor. By finding consistent results with previous studies the researcher has helped to substantiate previous findings. Like previous studies the findings from this paper suggest that in terms of data diversity the output from both online and in-person focus groups could be combined and analyzed as one source if desired by researchers.

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IN-PERSON VERSUS ONLINE FOCUS GROUPS: A COMPARISON OF DATA QUALITY

(Accepted for publication in the International Journal of Contemporary Hospitality Management)

Abstract

Purpose – This paper experimentally tests the idea generation capabilities of online text-based focus groups versus traditional in-person focus groups using sustainability in the hospitality industry as the idea generation topic. Idea generation quantity and quality are analyzed and the theoretical and practical implications for the hospitality industry are discussed.

Methodology – An experimental study was designed to test the quality of ideas generated by an online versus in-person focus group. Participants were purposively sampled from the hospitality program at a large southeastern university and randomly assigned into one of two treatment groups: online text-based or traditional in-person focus groups. During both treatment groups were asked to generate ideas focused on sustainability in the hospitality industry.

Findings – The online focus group generated a comparable quantity of ideas, in addition to a similar average quality of ideas and number of good ideas.

Practical Implications – The generation of ideas and the selection of opportunities drive the innovation process through which firms can strengthen their competitive advantage and maintain and grow market share and profitability. The results of this study may assist hospitality firms in determining which form of qualitative research delivers the highest return on investment, generating the best ideas at the lowest cost.

Originality – This paper breaks new ground by assessing the effectiveness of idea generation in online versus traditional focus groups comparing both the quantity and quality of ideas generated from an experimental study that employs random assignment.

Keywords Qualitative Methods, Focus Groups, Idea Generation, Sustainability, Crowdsourcing

Paper type Research Paper

Introduction

New product development, the generation of ideas and the selection of opportunities, drives the innovation process through which firms can strengthen their competitive advantage and maintain and grow market share and profitability (Girotra *et al.*, 2010; Terwiesch and Loch, 2004; Terwiesch and Ulrich, 2009). New product development is difficult though, and perhaps the most challenging step is the first step, idea generation (Sowrey, 1990). Only the best opportunities, the extremes and outliers, drive the success of innovating through idea generation (Girotra *et al.*, 2010; Terwiesch and Loch, 2004; Terwiesch and Ulrich, 2009). It is therefore critical that firms engage in idea generation through data collection methods that encourage participants to create the best ideas at the lowest cost to obtain the highest return on investment.

One research method used extensively for generating ideas has been focus groups. Over $4.4 billion annually is spent by firms on in-person focus group research (ESOMAR, 2014). Within academia focus groups have been used by hospitality researchers as a data collection method with topics as disparate as: purchase decisions (Lockyer, 2005), loyalty programs (Jang and Mattila, 2005), nightclubs (Skinner *et al.*, 2005), accounting (Chan and Wong, 2007), work-life balance (O'Neill, 2012), food safety (Arendt *et al.*, 2013), casino loyalty (Prentice, 2013),

and wine tourism (Zhang Qiu *et al.*, 2013). Ali (2017) has called for hospitality researchers to diversify their research methods, encouraging them to use under-utilized research methods for data collection, like focus groups, in addition to other more innovative methods.

One newer relatively innovative research method is the practice of conducting focus groups online. Given the growth of using the internet and social media to conduct qualitative research (ESOMAR, 2014; Patino *et al.*, 2012), the comparatively lower cost of online focus groups (Murgado-Armenteros *et al.*, 2012), and hotel brands' willingness to engage in online idea generation (Trejos, 2013), it is likely that the usage of online focus groups will increase. Yet, little is known about how effective online focus groups are in generating ideas compared to those generated by more traditional focus groups (Murgado-Armenteros *et al.*, 2012).

Realizing the potential of idea generation conducted via online focus groups relative to traditional in-person focus groups, researchers have compared the two. Schweitzer *et al.* (2012), for example, compare online idea competitions versus in-person focus groups using a sample of convenience, with participants self-selecting into treatment groups, measuring ideas per participant and cost per idea. The researchers found that the online idea competitions led to more ideas at a lower cost per idea. Abrams *et al.* (2015) randomly assigned participants into three treatment groups, examining data richness and word count in face-to-face, online audio visual and online text only focus groups. The results showed that online text only focus groups resulted in less rich data with a lower total word count. Finally Woodyatt *et al.* (2016) compare online versus in-person focus groups, with participants self-selecting into treatment groups, measuring word count and number of responses. The researchers found that the online focus groups had a larger word count. Previous studies, therefore, have been limited methodologically (i.e. non-random assignment) and in their practical implications (i.e. measuring quantity not quality of

ideas). Therefore, the question as to which is more efficient and effective remains unanswered. The need continues to exist to answer this question by comparing the quality of idea generation in online versus in-person focus groups with a research design incorporating random assignment to strengthen the validity of the results.

This study meets that need by investigating the quality of ideas generated within focus groups in the context of sustainability practices in the hotel industry. With an increasingly complex and dynamic industry and challenging business conditions, hospitality firms are seeking out new ways to improve efficiency and performance (Assaf and Barros, 2013; Richard, 2017). Driven by a shift in consumer perceptions as to the importance of environmental impacts and the ability to achieve performance improvements by adopting environmentally friendly practices, sustainability has become a rapidly growing area of innovation interest to both industry practitioners and academic researchers (Gao *et al.*, 2016; Lee and Song, 2016; Myung *et al.*, 2012; Ruhanen *et al.*, 2015; Torres-Delgado and Palomeque, 2012).

Sustainability innovations can positively influence customer behaviour and hotel performance. For example, an increase in environmental reporting has a significant impact on hotel performance (Assaf *et al.*, 2012), and environmentally sustainable operations can result in increased efficiency and cost savings (Bramwell and Alletorp, 2001; Bohdanowicz, 2005). Consumers are also increasingly seeking out hospitality firms that demonstrate environmental awareness in their operations influencing their behavioural intentions and how much they are willing to pay (Gao *et al.*, 2016; Kang *et al.*, 2012), with the effects of customer voice, satisfaction and complaints having an impact on hotel performance (Assaf and Cvelbar, 2015; Assaf *et al.*, 2015). Consumers have been shown to be able to perceive the extent to which an innovative idea can solve their problems (Ismail *et al.*, 2012). Sustainable innovations that are

perceived by consumers to be safe, easy, useful, compatible with their lifestyle and more in-line with their innovation needs are more likely to be accepted and adopted (Chen *et al.*, 2013; Cobanoglu *et al.*, 2015; Hashim *et al.*, 2014).

This paper experimentally tests the innovation generation capabilities of online text-based focus groups versus traditional in-person focus groups using sustainability in the hotel industry as an idea generation topic. A literature review was conducted (Boote and Beile, 2005) to reveal the empirical evidence for each's effectiveness in generating innovative ideas. The literature review focused on in-person focus groups, online focus groups, computer-mediated discourse, and idea generation.

Participants were purposively sampled from the hospitality program at a large Southeastern university. Students were offered extra credit if they completed an initial survey in addition to taking part in the experiment. Students who completed the initial survey were randomly assigned into one of two treatment groups: online text-based or traditional in-person focus groups. An online focus group was conducted via a private session within Reddit, a crowdsourcing platform. An equal number of participants were invited to four in-person focus groups, right sized to create a comfortable setting and promote interaction (Krueger, 1994; Liamputtong, 2011).

During both treatment groups, participants were asked an idea generation question adapted from Girotra *et al.* (2010) that focused on sustainability in the hospitality industry. Participant contributions from both treatment groups were transcribed, organized and coded. Unique ideas were identified and summarized by the researcher, with an experienced external reviewer validating the summaries. Unique ideas were then reviewed for quality (e.g. novelty, usefulness and feasibility) by two hospitality experts. The quantity, average quality and variance

in quality of the ideas were measured in addition to the number of good and great ideas as defined by the researcher based on previous studies. Theoretical and practical implications for the hospitality industry are discussed.

Focus Group Mediums and Idea Generation Capabilities

In-person Focus Groups

Focus groups represent a type of group interview that allows for and encourages discussions among participants. Participants are encouraged to respond to the interviewer's questions by addressing the group or by conversing with select participants. Asking follow up questions, exchanging stories, personal experiences and points of view are all ways in which participants can add value to the conversation. Focus groups are advantageous from a sampling perspective because they encourage participation from those participants who would be reluctant to participate in a one-on-one interview, and from those participants who would feel uncomfortable directly responding to a question from an interview, but would be willing to take part in a conversation amongst peers (Gammie *et al.*, 2017; Kitzinger, 1994; 1995; Powell and Single, 1996).

Conducting the interviews as a group rather than individually allows for a wide variety of interpersonal communication. Rather than merely responding to an interviewer's question, the introduction of the group dynamic encourages the participants to interact with each other. Joking, teasing and arguing can be common occurrences in a focus group. This type of interaction adds emotion to the discussion, which might be lacking in a one-on-one interview.

Relative to individual interviews, focus groups enable a more in-depth exploration of participant's opinions and beliefs through the expression of feelings and attitudes. This heightened level of interpersonal communication also allows for the ability to identify group norms, shared and common knowledge, and the level of consensus and dissent amongst the participants (Gammie *et al.*, 2017; Kitzinger, 1994; 1995).

While focus groups have several advantages, they also have limitations. For example, the saliency of group norms in the focus group can lead to participants holding back or falsifying contributions to maintain group consensus or to project a socially desirable image to the other participants (Joinson, 2001). Some group participants may even dissuade other participants from participating through intimidation, a negative attitude, or a dismissive response to other's contributions. Relative to in-depth interviews conducted with solo participants, a focus group may yield comparatively superficial results, failing to generate in-depth responses (Powell and Single, 1996).

Text-Based Online Focus Groups

The proliferation of the internet and the personal computer over the past two decades has enabled the creation of a variant of the traditional focus group: the online focus group. Having found a place within both the academic (Abrams *et al.*, 2015) and practitioner (ESOMAR, 2014) markets, the central feature of online focus groups, the ability to conduct them independent of the locations of the participants, makes them ideal for a wide variety of circumstances in which the traditional focus group is impractical. Online focus groups are typically conducted in one of two formats. A group could participate simultaneously in a real-time online focus group

(typically lasting up to a few hours), or alternatively an online text-based bulletin board system can be employed asynchronously (frequently conducted over a few days).

Unlike traditional focus groups, the mechanisms which influence online text-based focus groups can be explored through the lens of computer-mediated discourse (CMD) theory. CMD, defined as "the communication produced when human beings interact with one another by transmitting messages via networked computers" (Herring, 2001, p. 612) shares numerous characteristics with spoken conversation (Herring, 2010). Relative to traditional focus groups, online text-based focus groups possess anonymity, asynchronous messaging, minimal contribution size restrictions, and contribution retention and organization, which could influence the effectiveness of idea generation (Herring, 2010; Joinson, 2001). Yet, while online text has been compared to the spoken language, it does possess several disadvantages including a lack of social cues and vocal intonation, inherent to in-person conversations (Krueger, 1994; Opdenakker, 2006).

Computer-Mediated Discourse

The potential advantages of conducting idea generation via an online text-based focus group versus a traditional focus group can be explored through the lens of discourse theory. Crowdsourcing platforms like Reddit operate primarily via asynchronous text-based conversations as opposed to traditional focus groups which are synchronous and in-person. These online text-based conversations are a form of computer-mediated discourse. Several factors related to the structure of messaging contribute to the effectiveness of computer-mediated discourse. Those factors that are most relevant to crowdsourcing platforms (e.g. Reddit) and

their functionality are: anonymity, synchronicity, length, persistence, and organization (Herring, 2007).

Computer-mediated discourse factors in an online text-based focus group have the potential to beneficially impact idea generation relative to an in-person focus group. According to Spears and Lea (1994, p. 435), "under the protective cloak of anonymity users can express the way they truly feel and think". It has been shown that in anonymous situations people self-report lower levels of social anxiety and social desirability and higher levels of self-esteem (Joinson, 1999) and may feel more comfortable and perceive less ridicule for asking "foolish" or unpopular questions (Aiken *et al.*, 1994).

Similar to in-person focus groups all participants in an online conversation can contribute simultaneously (Aiken *et al.*, 1994). In person focus group moderators will use production blocking to prevent simultaneous conversations and allow only one member of the group to speak at a time (Diehl and Stroebe, 1987). As a result other participants may forget ideas while waiting to contribute. This forces participants to concentrate on remembering their ideas instead of generating new ones. Listening to others is likely to inhibit the generation of new ideas (Diehl and Stroebe, 1991; Straus, 1996).

The platform itself that the online focus group is conducted on (e.g. Reddit) plays a role as well. Electronic channels are configured to automatically store and retain entries, allow for parallel communication, and support groups separated by time and space (Dennis *et al.*, 1988). This functionality enables a level of group interaction that would be challenging to replicate in a verbal, face-to-face environment (Huber, 1990). In-person focus group contributions are constrained in length and quality by the participant's ability to develop on-the-spot contributions and the time limit inherent to the focus group (Kitzinger, 1995). In an electronic environment,

such as a crowdsourcing platform, contributions can be nearly limitless in size (i.e. word count of ideas) (Herring, 2007). Finally, on a crowdsourcing platform submissions are organized and categorized allowing participants to more easily determine what contributions have already been made (Dawson and Bynghall, 2011).

Methods

To compare the performance of online text-based versus traditional in-person focus groups an experiment was designed in which participants were randomly assigned into one of two treatment groups (e.g. online or in-person focus groups) from which the number of unique ideas, average quality of ideas, variance in quality of ideas and the best ideas would be identified.

Participants and Procedure

Participants for the experiment were sampled from the hospitality program at a large Southeastern university. Institutional Review Board approval was obtained prior to notifying participants of the research study. Course extra credit was offered to participants as an incentive to take part in the study. Those participants that desired extra credit but did not want to participate in the study were offered an alternative non-experimental task.

All potential participants were asked to complete a short survey online via Qualtrics requesting basic demographic information, including: age, sex, academic program and level, employment status, number of years employed and number of years employed within the hospitality industry. Participants were asked to provide availability for in-person focus groups.

Proposed in-person focus group times were pre-selected by the researcher to occur on campus before and after class sections in an attempt to increase the likelihood of participant selection and attendance.

A total of 461 undergraduate students were invited to participate in the study. Ninety-one students (20% of invited participants) completed the initial survey. While low a 20% response rate does fall within the range of percent responses found within one meta-analysis study of response rates (Baruch and Holtom, 2008). It should be taken into consideration that the overall time commitment and ability to meet for one hour in-person was perceived to be a significant contributor to the low response rate. A stratified random assignment was conducted to assign participants to treatment groups based on the perceived necessity to control for and balance the influence of potential covariates (Conlon and Anderson, 1990; Suresh, 2011). Stratified random assignment has been recommended for covariance balancing with studies with smaller sample sizes where N is less than 100 (Lachin *et al.*, 1988). The randomization was stratified based on participant sex and employment tenure as both are covariates that have been shown to have an impact on the creativity of participants and their resulting idea generation output (George and Zhou, 2007; Zhang and Zhou, 2014).

All participants that completed the initial survey (e.g. 91) were assigned into one of the two treatment groups – an online text based focus group or traditional in-person focus groups. Those participants who were assigned to focus groups who were unable to attend based on stated availability in the initial survey were re-assigned to the alternative assignment, along with an equivalent number of randomly selected participants assigned to the online focus group. A total of 72 participants (16% of invited participants) were assigned to the treatment groups: 36 online, 36 in-person, and 19 alternate assignments. As a result of the stratified random assignment the

in-person treatment group was 78% female (28/36) with an average hospitality experience of 3.4 years compared to the online treatment group which was 81% female (29/36) with an average hospitality experience of 3.3 years. The researchers obtained demographics for the overall population of the hospitality college at the large southeastern university to determine if the sample was representative of the population. In terms of sex the sample was roughly comparable to the population where 75.3% was female and 24.7% male. Of the 72 participants that were assigned to treatment groups 46 successfully completed their assigned task with 25 in the online group and 21 in the in-person group. As a result the final participation rate was 10% (46/461).

In-person focus groups

In-person focus groups were conducted on campus at a large Southeastern university from which the participants were sampled. Following conventional focus group methodology, each focus group consisted of a small number of participants to create a comfortable setting that promotes participant interaction (Krueger, 1994; Liamputtong, 2011). A total of four focus groups were conducted; a large enough number to reasonably anticipate thematic saturation (Guest *et al.*, 2017). Both audio and video from the in-person focus group sessions were recorded and saved.

Participants were instructed that focus group sessions could last up to 60 minutes, depending on the intensity and duration of conversations. At the start of each focus group the participants were reminded that all information collected by the researcher was confidential with participant identifiers removed and data stored in a secure location. The moderator then explained the ground rules for participation in the focus groups and the resulting participant

interaction. An idea generation question focused on sustainability in the hospitality industry was read to participants. Participants were then reminded that there are no right or wrong answers and that all responses are confidential (Morrison-Beedy *et al.*, 2001).

3.3 Online focus groups

The researcher identified an online crowdsourcing platform, Reddit, that is freely available and accessible to the public, has the capability to anonymously collect online contributions, and has platform mechanisms to help facilitate participant discussion (e.g. idea ranking, tiered discussions) (Richard, 2013; Shatz, 2016). The researcher created a private subreddit (e.g. forum) called "r/datacollection" within the Reddit platform that allowed the researcher to create private focus group sessions that could only be accessed by invited participants. The researcher then created anonymous Reddit usernames (e.g. participant1, participant2, etc.) and passwords for each online focus group participant. Usernames and their corresponding passwords were randomly assigned to participants. Participants were then individually emailed their unique username and password along with the focus group session web address and the dates and times during which they would be able to participate.

At the beginning of the session the researcher provided the participants with the same idea generation question focused on sustainability in the hospitality industry provided to the in-person focus groups. Participants contributed to the conversation via text-based submissions. Participants were able to simultaneously contribute and comment on other participant's contributions as well as rate (positively or negatively) other participant's contributions. Those contributions with higher rankings would automatically move to the top of the conversation, whereas those with lower rankings would move the bottom.

Idea generation question

During both the in-person and online focus groups participants were asked an idea generation question by the moderator at the start of the session. For the purposes of this study, an "idea" is a participant's response to a stated problem which seeks to resolve the problem (Smith, 1998). The idea generation question used in this study was drawn from a previous study by Girotra *et al.* (2010) focusing on the quantity and quality of ideas generated from groups in a variety of configurations. The idea generation question, originally focused on new product development for dorm rooms targeted for sale to the student market, was modified to focus on new sustainable practices for the hospitality industry:

> A hotel chain has retained you to identify new or improved sustainable hotel practices. The hotel chain (for example, Marriott, Hilton, Holiday Inn) is interested in "going green" and seeks practices likely to appeal to environmentally friendly guests. These practices might be solutions to unmet needs or improved solutions to existing needs (modified from Girotra *et al.*, 2010, p. 598).

Further clarification was provided to the participants to ensure that they knew the broad scope of the idea generation question and how it might relate to their experiences. The researcher emphasized that any ideas on "going green" were welcome, that they could come from their time as an employee or a guest, and that the ideas could relate to any part of hotel chain operations. Finally participants were reminded that there are no wrong answers and that they were welcome to share a new idea and comment or build upon an idea contributed by another participant.

Measurement of Performance

In order to assess the performance of the two treatment groups, this paper measures the quantity as well as the quality of the ideas generated. The researcher identified unique ideas which were then sent out to an expert panel to review for quality. As a result the average quality, variance in quality and highest quality ideas were measured.

Number of ideas

The recorded audio files from the in-person focus groups were transcribed into text documents. Passages that contained an idea were flagged and transferred into an excel workbook where each potential idea was isolated into a single row. Similarly the text-based discussion resulting from the online focus group was also transferred into the excel workbook with unique ideas isolated to single rows. To simplify the ideas by removing redundant and unnecessary text, and make them more amenable to the panel of expert reviewers, the researcher considered summarizing each idea. Prior studies either didn't assess the quality of the ideas generated and therefore had no need to summarize the ideas for reviewers (Abrams *et al.*, 2014; Schweitzer et al., 2012), or if they did assess the quality of the ideas no mention was made of cleaning or summarizing ideas (Girotra *et al.*, 2010). Manipulating qualitative data carries with it the risk of introducing researcher bias, although on the other hand wordy and redundant ideas would most likely lead to reviewer fatigue. Ultimately it was decided that providing the reviewers with simplified idea summaries was more important.

An external reviewer was identified to assess the accuracy of the idea summary process; a PhD student within a hospitality program at a large Southeastern university. The reviewer

compared the original submission by the participant to the idea summary created by the researcher rating the accuracy of the idea summary on a scale of 1 to 5 where 1 was not at all accurate and 5 was very accurate. In the initial review over 90% of the idea summaries were rated as either 4 or 5. The remaining 10% were rated as not at all to only moderately accurate (1 to 3). For those idea summaries rated 1 through 3 the researcher worked with the reviewer to understand the discrepancy between the original submission and the idea summary. Idea summaries were modified and re-assessed by the reviewer. After the revisions and second round of idea summary assessment 100% of the idea summaries were rated as a 4 or higher (88% rated a 5, 12% rated a 4).

A content analysis was then conducted on the idea summaries to identify and isolate unique ideas. While it is often preferable to use multiple coders for content analysis, due to the unique nature of the study, with the ideas generated corresponding to existing hotel divisions, the researcher decided to conduct the process individually. The researcher engaged in multiple levels of coding, grounded in procedures set forth by Glaser and Strauss (1967) and Miles and Huberman (1984), and conducted according to the phases outlined by Braun and Clarke (2006). First the researcher obtained a familiarity with the data, next free coding the ideas, leading to an association of selected statements with keywords. The data was then organized into meaningful groups (Miles and Huberman, 1984). The researcher used existing organizational structures within hotels as a guide to assigning various coded ideas to groups (e.g. front desk, housekeeping, food and beverage) (O'Fallon and Rutherford, 2011). The unique ideas identified during this process were sent to reviewers to measure their quality.

Quality of ideas

The quality of the ideas was assessed by employing items that would best determine the value of the ideas generated to a firm. Girotra et al. (2010) used a single 10-point item asking reviewers to assess the business value of each idea. After conducting a review of previously employed scale items though it became clear that one item might not be sufficient to capture the different quality characteristics of the idea. For example a useful idea might not be practical (due to cost) or new (due to being an already established industry standard). A prominent researcher with a focus on entrepreneurship and creativity, Dr. Cameron Ford, was consulted via email to provide recommendations on the selection of items and the ability of the selected items to be combined. Dr. Ford confirmed that the initial search findings were a representative list of measures, and provided suggested pivotal paper and authors to investigate.

While investigating how to determine the value of an idea it became clear that there is no universally agreed upon set of items to use in determining the quality of an idea (Sullivan and Ford, 2010), however there are a small set of items that are frequently used (e.g. novelty, originality, feasibility, practicality, usefulness) with the exact selection dependent on the nature of the research question (Bretschneider *et al.*, 2012; Kohn *et al.*, 2011; Rietzschel *et al.*, 2010). Based on previous research (e.g. Franke *et al.*, 2006; Moreau and Dahl, 2005; Poetz and Schreier, 2012) idea quality was assessed using three variables: (1) the novelty of the idea (e.g. how unique it is), (2) the usefulness of the idea (e.g. how valuable it is), and (3) the feasibility of the idea (e.g. how implementable it is).

All three variables were assessed using 5-point rating scales. 5-point rating scales were used to increase the response rate and decrease reviewer frustration and confusion (Babakus and Mangold, 1992), improve the ability of reviewer to read the scale descriptors (Dawes, 2008) and

because the variables are more appropriate as unipolar scales (Krosnick and Fabrigar, 1997). The five point scales were all labelled using “not at all” to “extremely” with each scale point labelled (Krosnick and Presser, 2010; Vagias, 2006).

The quality of the ideas was assessed by two experienced hospitality professionals. The reviewers consisted of one vice president of hotel operations, and one director of food and beverage operations. The reviewers had respectively 25 and 22 years of experience within the hospitality industry. The ideas were loaded into Qualtrics with each idea presented to the reviewers in random order and assessed for quality by two reviewers. The reviewers were blind to the source of the ideas (online versus in-person focus groups) to minimize reviewer bias.

Interrater reliability, the level of agreement among raters, was measured by calculating Cronbach’s alpha for all three quality variables (e.g. novelty, usefulness, and feasibility) where alpha values that meet or exceed .7 are generally considered to be acceptable (Cronbach, 1951; Gwet, 2014; Peterson, 1994). Rater scores were loaded into SAS from which Cronbach alpha raw coefficients were calculated using the PROC CORR statement. The raw agreement coefficients for novelty, usefulness and feasibility were .88, .73 and .79 respectively. As a result the rater scores for each of the three variables was averaged (Poetz and Schreier, 2012). T-tests were conducted using the average rater scores for the three quality variables to determine whether or not the mean differences were statistically significant between online and in-person focus groups (Gravetter and Wallnau, 2016).

While previous studies (Poetz and Schreier, 2012) decided to average rater scores based on their correlation, the researcher undertook the additional step of considering incorporating the original rater scores into a more advanced model to see if the nested nature of the data played a role in the findings. Multilevel modeling allows researchers the ability to more properly account

for data that is hierarchical in nature (Hox, 2010). Ignoring the hierarchical nature of the data can potentially negatively impact: the estimated variances and power to detect effects (Shadish *et al.*, 2002), the inflation of Type I error rates (Wampold & Serlin, 2000), and errors in the interpretation of statistical significance tests (Goldstein, 2003).

In order to conduct a multilevel analysis the data set was restructured so that it could be analyzed where rater ratings were nested within raters, nested within unique ideas, nested within participants, with focus group type and participant information employed as predictor variables. Within SAS, Proc Mixed was employed to test a two level null model to determine what percent of the variance was accounted for by the raters (see Figure 1 for example). Within the null model rater was the highest level and was allowed to have its own intercepts. No predictor variables were added at this time.

Figure 1. Proc Mixed Novelty 2 Level Null Model

```
PROC MIXED data=DTBLE.statistical_test_data_r14a covtest method=ml noclprint;
title 'Novel_Null Model';
class rater;
model novel_r = /solution ddfm=bw;
random intercept / subject=rater g gcorr type=un;
```

Next various multilevel models were built using the SAS Proc Glimmix procedure in which the outcome variables were treated as categorical (see Figure 2 for example) (Bell *et al.*, 2013; Smiley *et al.*, 2015). Three sets of multilevel models were constructed; one for each of the outcome variables (i.e. novelty, usefulness and feasibility). First the null model was constructed in which the outcome variable (e.g. novelty) was nested within unique ideas, which was then nested within participants. Here ideas were allowed to have their own intercepts and were nested within participants, where participants were the highest level and were also allowed to have their own intercepts. Next a fixed effects model was constructed in which the treatment group type

(i.e. online or in-person) was added to the model as a predictor variable. Finally a third model was constructed in which in addition to the treatment group type all of the level one predictors were added to the model to determine the relationships between the level one predictors and the outcome variable (see Figure 2).

In all of the models the covariance structure was varied as needed via the "type=" option within the RANDOM statement within Proc Glimmix. All models were initially tested using the "VC" type option which specifies standard variance components and is the default structure for Proc Glimmix. When needed the "UN" type option which specific a completely general (unstructured) covariance matrix was also employed to better determine the nature of the relationships between the outcome variables, the levels, and the predictor variables (Kiernan *et al.*, 2012).

Figure 2. Proc Glimmix Novelty 3 Level Null and Fixed Effects Models

```
proc glimmix  method=Laplace noclprint  INITITER=10000;
title 'AvgNovel_Ratings Model 1: Null Model';
      class Idea_Unique Participant;
      model AvgNovel_Ratings = /CL DIST=logn LINK=identity SOLUTION CovB;
      random intercept       / subject=Participant g gcorr  type=vc;
      random intercept       / subject=Idea_Unique(Participant) g gcorr  type=vc;
          COVTEST / WALD;

proc glimmix  method=Laplace noclprint  INITITER=10000;
title 'AvgNovel_Ratings Model 2: Experiment only';
      class Idea_Unique Participant;
      model AvgNovel_Ratings = Exp_grp/CL DIST=logn LINK=identity SOLUTION CovB;
      random intercept       / subject=Participant g gcorr  type=vc;
      random intercept       / subject=Idea_Unique(Participant) g gcorr  type=vc;
          COVTEST / WALD;

proc glimmix  method=Laplace noclprint  INITITER=10000;
title 'AvgNovel_Ratings Model 3: Full Model Fixed Effects';
      class Idea_Unique Participant;
      model AvgNovel_Ratings = Exp_grp P_Sex P_Age P_Academic_Level Hos_Exp All_Exp/CL
      DIST=logn LINK=identity SOLUTION CovB;
      random intercept       / subject=Participant g gcorr  type=vc;
      random intercept       / subject=Idea_Unique(Participant) g gcorr  type=vc;
          COVTEST / WALD;
```

In both sets of analyses multiple levels of hierarchy were tested to determine which levels and predictors were significant. Covariance parameter estimates were used to calculate the

intraclass correlation coefficient (ICC) to determine what percent of the variation was accounted for by each level (Bell *et al.*, 2013). Finally fixed effects were also interpreted to determine significant relationships between predictor variables and outcome variables.

Number of best ideas

While it can be valuable to understand the mean differences of quality between in-person and online focus groups, of potentially greater importance is the extent to which each data collection method generates the best ideas, as only the best opportunities drive the success of innovating through idea generation (Girotra *et al.*, 2010). Due to a perceived lack of correlation between the items, as evidenced in previous studies (Sullivan and Ford, 2010), the decision was made not to combine the items scores. Rather following the method developed by Magnusson (2009) and later Poetz and Schreier (2012), ideas in which all three variables (e.g. novelty, usefulness, and feasibility) were rated as a "3" or higher were flagged as being "good" ideas. In addition, taking the procedure one step farther, all ideas in which all three variables were rated as a "4" or higher were flagged as being "great" ideas.

Findings

When the rater scores were averaged the results of the T-tests showed that in terms of novelty (e.g. unique, new) the results indicated a slightly lower, although not statistically significant difference, between ideas generated in online focus groups (mean = 2.07) versus in-person focus groups (mean = 2.14). In terms of usefulness (e.g. utility, value) the results indicated a slightly higher, although not statistically significant difference, between ideas

generated in online focus groups (mean = 3.44) versus in-person focus groups (mean = 3.33). In terms of feasibility (e.g. implementable) the results indicated a slightly higher, although not statistically significant difference, between ideas generated in online focus groups (mean = 3.70) versus in-person focus groups (mean = 3.67). The standard deviation for all variables (e.g. novelty, usefulness, and feasibility) is consistently lower, although only slightly, for online focus groups (1.09, .91 and 1.04 respectively) versus in-person focus groups (1.16, 0.91 and 1.09 respectively) (see Table 1). To determine the effect size of the results, Cohen's D was used. Cohen's D is typically used for larger sample sizes, where the two groups have similar standard deviations and sample sizes. The resulting Cohen's D values for novelty, usefulness and feasibility were .06, .12, and .03 correspondingly, all classified as small effect sizes (Shadish *et al.*, 2002).

Table 4. Average Novelty, Usefulness, and Feasibility and Best Ideas of Online versus In-person Focus Groups

	In-person Ideas (n = 105)		Online Ideas (n = 106)		
Idea Quality	Mean	(SD)	Mean	(SD)	T test (*p* value)
Novelty	2.14	(1.16)	2.07	(1.09)	.49 (.62)
Usefulness	3.33	(0.91)	3.44	(0.91)	.84 (.40)
Feasibility	3.67	(1.09)	3.70	(1.04)	.18 (.86)

In terms of idea quantity (see Table 2), while the online focus group generated less ideas than the in-person focus groups (137 vs. 144), both groups generated a similar number of unique ideas (105 in-person vs 106 online). As noted above though, the true value of an idea generation activity is not the number of ideas generated, but rather the number of good ideas generated. The researcher marked "good" ideas as those that achieved a "3" or higher on novelty, usefulness and

feasibility. “Great” ideas surpassed “good” ideas achieving a “4” or higher on all three measures of quality. The online focus group generated 20 “good” ideas which was comparable to the 21 “good” ideas generated in the in-person focus groups. Critically the number of “great” ideas was relatively consistent across both groups, with in-person generating 7 versus 6 for the online group. Overall the results show that ideas generated in online focus groups are roughly on par in terms of average quality and number of good and great ideas when compared to in-person focus groups.

Table 5. Ideas, Unique Ideas, Good and Great Ideas of Online versus In-person Focus Groups

Idea Quantity	In-person	% Total	Online	% Total	Total	% Total
Total	144		137		281	
Unique	105	73%	106	77%	211	75%
Good *(above 3)*	21	15%	20	15%	41	15%
Great *(above 4)*	7	5%	6	4%	13	5%

Next the rater scores were assessed in their original form without averaging within SAS nested within a multi-level model. First the two level null model was tested using Proc Mixed in which the rating scores (level 1) were nested within the raters (level 2) (see Figure 1). Intraclass correlation coefficients (ICC) were calculated by taking the covariance parameter estimates (see Table 6) for the rater and dividing it over the sum of the covariance parameter estimates for the rater and the residual. The results show that the raters themselves were accounting for 1.4% of the variance in novelty, 0% of the variance in usefulness, and 0.1% of the variance in feasibility, all of which were not significant (p values of .21, n/a and .43 in Table 6). Therefore it can be seen that the raters themselves were not contributing in a statistically significant way to the variance in the scores. As a result further analysis of the data in a multi-level format continued with the rater’s scores averaged, again nested within ideas within participants.

Table 6. Proc Mixed rater null model

Novelty Null Model

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	rater	0.02044	0.02565	0.8	0.2127
Residual		1.4621	0.08738	16.73	<.0001

Useful Null Model

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	rater	0	.	.	.
Residual		1.0253	0.06116	16.76	<.0001

Feasible Null Model

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	rater	0.001093	0.005861	0.19	0.4261
Residual		1.338	0.07996	16.73	<.0001

For further analysis new variables were created via a SAS data step averaging the rater scores for each of the three variables (similar to the T-test analyses). Using Proc Glimmix three sets of multilevel models were tested (one for each outcome variable); with each including a null model, a fixed effects model including treatment group type as a level one predictor variable, and a fixed effects model including all of the available level one predictor variables. Furthermore each model was tested using two covariance structure type options within the RANDOM statement within Proc Glimmix: variance components (VC) and unstructured (UN). The covariance structure that best fit the data was used for reporting purposes.

The results of the null model (see Table 7) show that in all three models (one for each of the outcome variables) the covariance parameter estimates for all levels (both ideas and participants) were not significant with p values above .05. As a result within the multi-level

models the variance within idea ratings cannot be attributed to the unique idea or the participant, and so the intraclass correlation coefficients were not calculated.

Table 7. Proc Glimmix three level null model

AvgNovel_Ratings Model 1: Null Model

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0.00207	0.004987	0.42	0.339
UN(1,1)	Idea_Uniq(Participa)	0.01479	0.01184	1.25	0.1057
Residual		0.1159	0	.	.

AvgUseful_Ratings Model 1: Null Model

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0.000693	0.00636	0.11	0.4566
UN(1,1)	Idea_Uniq(Participa)	0.02638	0.01606	1.64	0.0502
Residual		0.1497	0	.	.

AvgFeasible_Ratings Model 1: Null Model

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0.00103	0.008176	0.13	0.4499
UN(1,1)	Idea_Uniq(Participa)	0.0482	0.0221	2.18	0.0146
Residual		0.1967	0	.	.

The results for the fixed effects model (see Table 8) show that in all three models the covariance parameter estimates for all levels are not significant with p values above .05. As a result the intraclass correlation coefficients were not calculated for the participant and unique idea levels. Furthermore the fixed effects, the relationship between the predictor variable treatment group type and the outcome variable, were also not significant (see Table 9) with p value above .05.

Table 8. Proc Glimmix three level fixed effects model: covariance parameter estimates

AvgNovel_Ratings Model 2: Experiment only

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0.002005	0.004962	0.4	0.3431
UN(1,1)	Idea_Uniq(Participa)	0.01482	0.01184	1.25	0.1053
Residual		0.1159	0	.	.

AvgUseful_Ratings Model 2: Experiment only

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0.00065	0.006608	0.1	0.4608
UN(1,1)	Idea_Uniq(Participa)	0.0264	0.01617	1.63	0.0512
Residual		0.1497	0	.	.

AvgFeasible_Ratings Model 2: Experiment only

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0	.	.	.
UN(1,1)	Idea_Uniq(Participa)	0.04811	0.02057	2.34	0.0097
Residual		0.1957	0	.	.

Table 9. Proc Glimmix three level fixed effects model: fixed effects

AvgNovel_Ratings Model 2: Experiment only

Solution for Fixed Effects					
Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	0.1567	0.03437	15.1	4.56	0.0004
Exp_grp	0.006987	0.04828	19.7	0.14	0.8864

AvgUseful_Ratings Model 2: Experiment only

Solution for Fixed Effects					
Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	0.01624	0.03852	10.3	0.42	0.6819
Exp_grp	-0.00125	0.0541	14.1	-0.02	0.982

AvgFeasible_Ratings Model 2: Experiment only

Solution for Fixed Effects					
Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	-0.03125	0.04114	281	-0.76	0.4482
Exp_grp	-0.09284	0.05893	281	-1.58	0.1163

The results for the fixed effects model with the treatment group variable in addition to all participant predictor variables (i.e. sex, age, academic level, hospitality experience, all experience) (see Table 10) show that in all three models the covariance parameter estimates for the highest level, participant, are not significant with p values above .05. However, for all three models the second level idea unique is either significant (useful, p = .04; feasible, p = .01) or approaching significance (novel, p = .08). As a result the intraclass correlation coefficients were calculated for the idea unique level across all three outcome variable models (i.e. novel, useful, feasible). The idea unique level was shown to account for 12% of the variance in novelty, 15% in usefulness, and 20% in feasibility. In terms of the predictor variables (see Table 11), only hospitality experience had a statistically significant relationship with the outcome variables (t = -3.12, p = <..005 for usefulness).

Proc Glimmix three level fixed effects with predictors model: covariance parameter estimates

AvgNovel_Ratings Model 3: Full Model Fixed Effects

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0	.	.	.
UN(1,1)	Idea_Uniq(Participa)	0.0152	0.01106	1.37	0.0847
Residual		0.1159	0	.	.

AvgUseful_Ratings Model 3: Full Model Fixed Effects

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0	.	.	.
UN(1,1)	Idea_Uniq(Participa)	0.02461	0.01427	1.72	0.0423
Residual		0.1445	0	.	.

AvgFeasible_Ratings Model 3: Full Model Fixed Effects

Covariance Parameter Estimates					
Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr > Z
UN(1,1)	Participant	0	.	.	.
UN(1,1)	Idea_Uniq(Participa)	0.04686	0.02026	2.31	0.0104
Residual		0.1933	0	.	.

Proc Glimmix three level fixed effects with predictors model: fixed effects

AvgNovel_Ratings Model 3: Full Model Fixed Effects

Solution for Fixed Effects					
Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	0.3797	0.3602	281	1.05	0.2927
Exp_grp	0.01402	0.05363	281	0.26	0.7939
P_Sex	-0.03252	0.05827	281	-0.56	0.5773
P_Age	-0.00628	0.01162	281	-0.54	0.5892
P_Academic_Level	-0.00428	0.05641	281	-0.08	0.9396
Hos_Exp	-0.00587	0.01844	281	-0.32	0.7505
All_Exp	0.0019	0.01222	281	0.16	0.8766

AvgUseful_Ratings Model 3: Full Model Fixed Effects

Solution for Fixed Effects					
Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	-0.3808	0.409	281	-0.93	0.3527
Exp_grp	0.09828	0.0609	281	1.61	0.1077
P_Sex	-0.09758	0.06618	281	-1.47	0.1414
P_Age	0.02227	0.0132	281	1.69	0.0926
P_Academic_Level	0.05189	0.06406	281	0.81	0.4186
Hos_Exp	-0.06529	0.02094	281	-3.12	0.002
All_Exp	0.01112	0.01388	281	0.8	0.4237

AvgFeasible_Ratings Model 3: Full Model Fixed Effects

Solution for Fixed Effects					
Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	-0.2901	0.4875	281	-0.6	0.5523
Exp_grp	-0.03328	0.07259	281	-0.46	0.647
P_Sex	-0.04994	0.07887	281	-0.63	0.5271
P_Age	0.000885	0.01573	281	0.06	0.9552
P_Academic_Level	0.08318	0.07635	281	1.09	0.2769
Hos_Exp	-0.04341	0.02496	281	-1.74	0.0831
All_Exp	0.02509	0.01655	281	1.52	0.1305

Discussion and conclusions

Which data collection method can generate the best ideas for both academic and practitioner researchers? Recent literature (Schweitzer *et al.*, 2012; Woodyatt *et al.*, 2016) has

shown that online focus groups are capable of consistently generating a similar or greater quantity of ideas when compared to traditional in-person focus groups. However, these studies focused on the richness and volume of the responses and the ideas generated rather than the quality of the ideas. The quality of the ideas generated is relevant to both academia and practitioners who are investing substantial resources into the pursuit of focus groups (ESOMAR, 2014). This study represents one attempt to determine the relative value of online versus in-person focus groups. Using novelty, usefulness, and feasibility as measures of quality, this study has shown that online focus groups are able to achieve a similar level of quality in ideas, both in terms of average quality and the number of good and great ideas.

Across both groups there exists a divergence in the overall mean scores of novelty versus usefulness and feasibility (2.1 vs. 3.4 and 3.7). These findings are reinforced by previous studies which show similar results from a variety of groups including university students (Rietzschel *et al*., 2006) and industry professionals (Poetz and Schreier, 2012). Relatively low novelty scores are also in-line with the underlying nature of the idea generation process in which only the best ideas, the extremes and outliers, ensure success (Terwiesch and Ulrich, 2009). As Girotra *et al*. (2010) describe it "for most innovation challenges, an organization would prefer 99 bad ideas and 1 outstanding idea to 100 merely good ideas" (pg. 591). This same phenomenon justifies the relatively low number of "good" and "great" ideas (as seen in Poetz and Schreier, 2012); if the creation of valuable ideas were easy, firms would be more successful at it (Simester, 2016; Sowrey, 1990).

Within the multi-level analysis it was found that raters as a level were not found to be accounting for a statistically significant portion of the variance of the outcome variables (i.e. novelty, usefulness, feasibility). This was most likely due to the fact that there were only two

raters, which resulted in little variance with which to obtain significant results. When all of the predictor variables were included in a fixed effects model where the rater scores where averaged though unique ideas as a second level were found to be accounting for a statistically significant portion of the variance in the outcome variables. In all three models the experimental group (i.e. focus group type) was not found to be a significant predictor variable further reinforcing the ability of online focus groups to deliver a consistent level of quality when compared to in-person groups using a more robust multi-level analysis. On the other hand hospitality experience was a predictor variable that was significant for usefulness and approaching significance for feasibility. Multi-level analysis can add value by identifying predictor variables that are significantly related to the outcome variables. These significant variables might help inform what types of focus groups researchers would like to put together, or alternatively what variables researchers decide to control for when conducting random assignment. Combined, the multi-level analysis results show that the potential does exist to analyse the quality of data generated by focus group participants in a hierarchical manner.

Conclusions

Given the importance of market research to the creation of superior customer value (Day, 2000; Narver *et al.*, 2004; Price *et al.*, 2015) it is imperative that data collection methods, especially those related to new product development, are successfully generating high quality ideas. Even when companies carefully listen to customers, innovation isn't easy. One study that tracked nearly 9,000 new products at a national retailer found that only 40% were still on sale

three years later (Simester, 2016). The ability to generate and select high quality ideas at the lowest cost improves the likelihood that firms will be successful in new product development.

Theoretical implications

This study adds to the growing literature focused on comparing different methods of discourse (in-person vs. computer-mediated) and the effect it has on how individuals interact with each other to engage in idea generation. This study helps to validate previous studies that compared the quantity of ideas generated from online versus in-person focus groups. This study builds on previous literature by also assessing the quality of the ideas generated, a crucial measure in the development of new products and ideas.

Practical implications

This study represents just one example of the type of idea generation that could be conducted via online focus groups. By engaging in online data collection, firms have the ability to achieve significant cost savings over more traditional in-person methods (Murgado-Armenteros *et al*., 2012). With online focus groups, firms don't need to worry about procuring a physical location to hold the data collection session. Firms would also find it easier to incentivize individuals to take part in the study by offering the opportunity to participate from the comfort of their own home or another location of their choosing. Finally, firms would be able to more easily transcribe the data output, as it would already be text-based and stored online. Ultimately the over $4.4 billion spent annually on focus group research (ESOMAR, 2014) could be used more effectively.

Limitations

The generalizability of this study is limited by the participants and the subject of the idea generation. The participants were undergraduate students studying hospitality in the southeastern United States. The participants did have, on average, approximately three and a half years of experience in the hospitality industry, which adds validity to the ideas they were generating. The average age of the participants (23 years) could limit generalizability, as the adoption of newer technologies such as online focus groups can be negatively impacted by age (Anderson, 2015). As a result, the use of online focus groups might be less appropriate when targeting a study focused on older generations. The idea generation subject for this study was confined to sustainability within the hospitality industry.

The internal validity of the study might have been impacted by platform features and the level of involvement of the participants across the data collection methods. Reddit allowed for the rating of ideas by participants, which then impacted the idea's visibility (i.e. moving it up or down the conversation). While this feature most likely had an impact on the ideas generated, so too did the other features inherent to Reddit and all online focus groups, including the ability to retain and organize submissions. The differing nature of the platforms themselves with in-person focus groups being conducted via spoken words, and the online groups via text also potentially played a role in how participants contributed during the focus group sessions. Additionally, whereas the traditional focus groups were conducted in a face-to-face setting in which the participants were monitored by the researcher, the online focus group contributions were made at a time and place of their choosing. It is unknown how exactly this influenced the participants and the ideas they generated.

Without the constant presence of the moderator and fellow participants in a controlled environment it could be speculated that the participants were more likely to disengage from the activity or be distracted by an external influence. Lack of a physical moderator also provided participants with the opportunity to engage in negative behavior (e.g. insulting, trolling, spamming). Then again, the researcher's ability to tie the anonymous username back to the participant information and the perceived possibility of not earning extra credit may have dissuaded this behavior. It is also possible, though, that being in a setting of their choosing and contributing at a time of their choosing better enabled them to focus on the task at hand. In either case, negative behavior was not found by the researchers in this study and if disengagement occurred it was not to the detriment of the quality of the ideas generated. The effects of moderator presence and anonymity are promising topics for future research, as most large-scale online data collection efforts will likely take place in an uncontrolled environment.

Methodologically, the decision was made by the researcher to modify the qualitative data so that it was more amenable to rating via reviewers. Any time data is manipulated the potential for researcher bias exists. The ideas generated during the focus groups were summarized by the researcher to remove redundant information to reduce the likelihood of reviewer fatigue. To minimize the likelihood that researcher bias was introduced into the idea summarization process an external reviewer was employed to rate the accuracy of the idea summaries on a scale from one to five. The reviewer was a hospitality PhD student with professional experience in the hospitality industry. After the first round of rating was done, the researcher worked with the reviewer to modify the summaries to improve their accuracy. On an accuracy scale of one to five though, not all ideas were rated as a five with the final summaries having 12% assigned as a four. These summaries represented areas where the researcher and reviewer's perception of the

essence of the idea differed slightly. These deviations, though small, in what the idea represented were a limitation to the study.

Future research

This study conducted an experiment employing random assignment to best determine how ideas generated from an online text-based focus group would compare in terms of quality with traditional in-person focus groups. Several features inherent to online focus groups, computer-mediated discourse, and the platform selected (e.g. Reddit) may have impacted the validity of the findings. These features include: the anonymity of the online participants, their ability to contribute simultaneously, their ability to rate the contributions, and the platform's ability to store and organize contributions. In total these features allowed the online focus group to achieve a similar level of quality of ideas as those generated by the in-person focus groups. A future study could experimentally manipulate each of these features separately to better determine the extent to which each feature contributes to the overall performance of the online focus group.

From a methodological standpoint the potential to analyze data generated by focus group participants in a hierarchical format driven by multi-level modelling could result in more robust findings. Given the benefits of conducting multi-level modeling, its ability to minimize error rates and detect effects, multi-level modelling could be a valuable tool for researchers quantitatively analyzing qualitative data. Should future researchers decide to pursue these analyses, it is recommended that they carefully select the number of raters of ideas generated to

ensure that it is sufficient to enable the detection of a significant relationship between raters as a level and the outcome variables within the null model.

Given that the results of the study were positive, the next step could be to explore how different variants of online focus groups perform when compared to traditional in-person focus groups. Online focus groups are typically conducted in one of two formats: simultaneously in real-time typically via video (e.g. Skype, Google Hangouts) or alternatively in an asynchronous text-based bulletin board system While this study solely tested the asynchronous variant, a study could be developed in which the idea generation output from in-person focus groups could be compared against both the synchronous and asynchronous online formats. Such a study would be informative as each focus group would be uniquely influenced by its format. Similar to the asynchronous group, an online focus group conducted via video chat would be easier to recruit as the participants could be separated geographically. They would also potentially be more relaxed, participating from a location of their own choosing. On the other hand the bandwidth limitations of in-person focus groups would still exist, with participants contributing at the same time, and only able to contribute one at a time. In addition, group video chats would not retain the anonymity of text-based focus groups. The findings from such a study could help firms best determine the return on investment of idea generation conducted via focus groups across multiple online formats.

Future studies could take the comparative performance of different online focus group formats a step further by testing the potential for hybrid formats. One of the challenges of both in-person and online synchronous focus groups is that the contributions made by the participants are not recorded and made available real-time to the participants, as is the case in online asynchronous text-based focus groups. As a result it is difficult for participants to accurately

keep track of all of the contributions made during the focus group session. If real-time transcription (e.g. Dragon Natural Speaking) was used perhaps participants in online focus groups conducted via video chat could receive a real-time feed of the contributions made during the focus group session. The resulting hybrid format might result in reduced duplication of ideas and a more in-depth exploration of ideas.

Finally the opportunity exists to assess the capabilities of a truly worldwide crowd to determine how a crowdsourced focus group compares to a traditional in-person focus group. Rather than conduct a study with a group of participants randomly assigned into two treatment groups, a series of in-person focus groups could be compared to a discussion held on a crowdsourcing platform open to the worldwide community. Further, rather than have the same number of participants in each treatment group, this study variant would compare a select few in a traditional focus group to a massive dispersed online crowd. As a result the findings, while lacking the methodological rigor of this study, would be more generalizable to the crowdsourced discussions that are actually taking place today (Trejos, 2013). For firms that are considering seeking answers to their problems externally from the crowd (Ford *et al.*, 2015; Richard *et al.*, 2016), the findings from this type of study could help justify their use and assist firms in obtaining the best answers at a significantly lower cost (Murgado-Armenteros *et al*., 2012).

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ONLINE FOCUS GROUPS: HOW (AND WHY) TO USE THEM FOR YOUR RESEARCH

Abstract

New product development is critical to the innovation process through which firms are able to grow market share and profitability. Idea generation is the first and perhaps most challenging step in new product development, where the goal is the creation of the most valuable ideas. Traditionally in-person focus groups have been employed as a popular method to generate ideas. Focus groups though can be costly in time and resources. As a result researchers have been exploring the use of online focus groups which can be implemented at a lower cost with a faster delivery to market of ideas. This paper discusses how and why online platforms (e.g. Reddit) can be used to conduct online focus groups, describing general functionality and how tasks can be accomplished. Reddit is used as a case study with a walkthrough provided detailing the steps through which a firm can conduct an online focus group. Opportunities and challenges for researchers employing online focus group methodology are discussed.

Key words: Qualitative methods, focus groups, new product development, idea generation, crowdsourcing

Introduction

Developing new products isn't easy. Firms struggle to successfully generate new products that will stand the test of time helping to grow market share and profitability. From generating new ideas to selecting the best to developing and testing new products and delivering them to the market, the success rate of new product launches has historically been very low (Simester, 2016). Conceptualizing the new product development process as a series of narrowing gates it is easy to see how everything rests on the first step, namely idea generation. Without an ample supply of diverse high quality ideas the entire process becomes starved, as each step is dependent on the one before it (Girotra, Terwiesch, and Ulrich, 2010). Therefore it should be the goal of market researchers engaging in the new product development process to encourage the creation of the highest quality ideas to ensure the successful launch of new products.

Focus groups

Annually over $4.4 billion is spent by firms on focus group research (ESOMAR, 2014). Focus groups have been used extensively by firms in the new product development process from the generation of new ideas, to idea screening and concept development. Researchers value focus groups as a type of group interview that encourages discussion among participants. Exchanging stories, sharing personal experiences and offering different points of view are all ways in which focus group participants add value to the discussion. Focus groups also offer participants a more casual environment in which, rather than directly responding to an interviewer, they are taking part in a conversation with their peers. Contrasted with a one-on-one interview the interactions between focus group participants tend to add emotion to the

discussion. Participants provide their opinions and beliefs infusing them with feelings and attitudes (Gammie, Hamilton & Gilchrist, 2017). For all of their advantages though focus groups can be difficult to coordinate, relying on several participants who, properly motivated, need to meet at the same time and place for a relatively long duration vis-à-vis other forms of data collection.

Online focus groups

While in-person focus groups are still used extensively in market research, the growth of the personal computer, the internet and social media have begun to transform the way in which firms and researchers conduct qualitative data collection (ESOMAR, 2014; Patino, Pitta, & Quinones, 2012). It is easy to see why. Relative to in-person focus groups, online focus groups can be conducted independent of participant location. No longer do researchers have to ensure that participants arrive at a specific location that is convenient for everyone involved. Taking the process a step further online focus groups can be text-based, conducted asynchronously in which participants are free to come and go as they please, contributing on their own time rather than all at once at a time dictated by the researchers. In this brave new world of qualitative data collection it is possible to expand the participant count from only a handful found in a traditional focus group to an almost limitless number, facilitated through an online platform (e.g. Reddit).

How do they compare?

Given that an online focus group can be conducted independently of time and location, it is easy to image the potential advantage of conducting a focus group online. Remember though

that ultimately the goal of the focus group in relation to ideas is to generate the highest quality ideas that will deliver the most value to the firm. As such when assessing the effectiveness of online versus in-person focus groups it is beneficial to approach the calculation from a return on investment standpoint. Here both the cost and quality per idea will play a role. Ultimately firms will benefit most from the data collection method that generates the highest quality ideas at the lowest cost (Girotra, Terwiesch, & Ulrich, 2010; Schweitzer et al., 2012).

Thankfully several studies have been conducted in an attempt to answer the question of how valuable and costly online focus groups are when compared with traditional in-person focus groups. Schweitzer et al. (2012) compared the output from online idea competitions with in-person focus groups finding that online idea competitions resulted in more ideas generated at a lower cost per idea (€89.45 online vs. €105.76 for in-person). Woodyatt et al. (2016) compared in-person focus groups with online focus groups, measuring the number of words and themes generated. The researchers found that while the in-person focus groups generated a higher total word count, both types of focus groups generated a similar number of idea themes (i.e. idea diversity). The thematic consistency enabled Woodyatt et al. (2016), similar to previous studies (see Synnot et al., 2014), to contend that ideas generated from both in-person and online focus groups could be combined and analyzed as one source – an assertion implying an equivalency of ideas generated from both groups.

With a lower cost and a similarly diverse set of ideas generated from both in-person and online focus groups the one remaining question to ask is are the ideas generated from online focus groups as valuable to firms as those generated by in-person groups. Richard et al. (2018) investigated this topic randomly assigning research participants to in-person and online focus groups. A panel of experts was employed to rate the ideas on novelty, usefulness and feasibility,

with ideas that succeeded in all three categories being marked as either good or great. The researchers found that the two types of focus groups generate ideas that were comparable in mean scores for novelty, usefulness and feasibility. Perhaps more importantly both online and in-person groups were roughly equally as effective in generating both good and great ideas. As a result it can be said that online focus groups have the potential to generate ideas that are comparable in quality and lower in cost relative to in-person focus groups.

Given the potential value in firms conducting online focus groups it is worthwhile to explore the various functions and advantages of an online platform capable of facilitating the data collection. In this paper we highlight Reddit as one potential online platform that can be used to conduct an online focus group. Reddit was chosen as a case study as it had been used successfully in the past (see Richard et al., 2018) to generate ideas of consistent quality to in-person focus groups. This paper walks the reader through the process of setting up and conducting an online focus group via Reddit, highlighting the opportunities and challenges as well as major consideration for firms considering using this data collection method.

What is reddit?

Reddit is a social media website where users can share and comment on news stories, web links, text posts and images (see image 1). Founded in 2005, Reddit has developed a massive online presence. As of 2017 Reddit had grown to over five hundred million monthly visitors (over 200 million unique visitors) making it the fourth most visited website in the United States (ninth in the world). Visitors come from over 217 countries, spending on average 13 minutes per visit, leaving over five million comments and twenty five million votes daily.

Reddit is an immense online news aggregator and collection point for commentary on a variety of topics that has stood the test of time. The online platform it operates on is robust, allowing for hundreds of thousands of subreddits (thousands active on any given day) collectively accumulating millions of comments (Shatz, 2017).

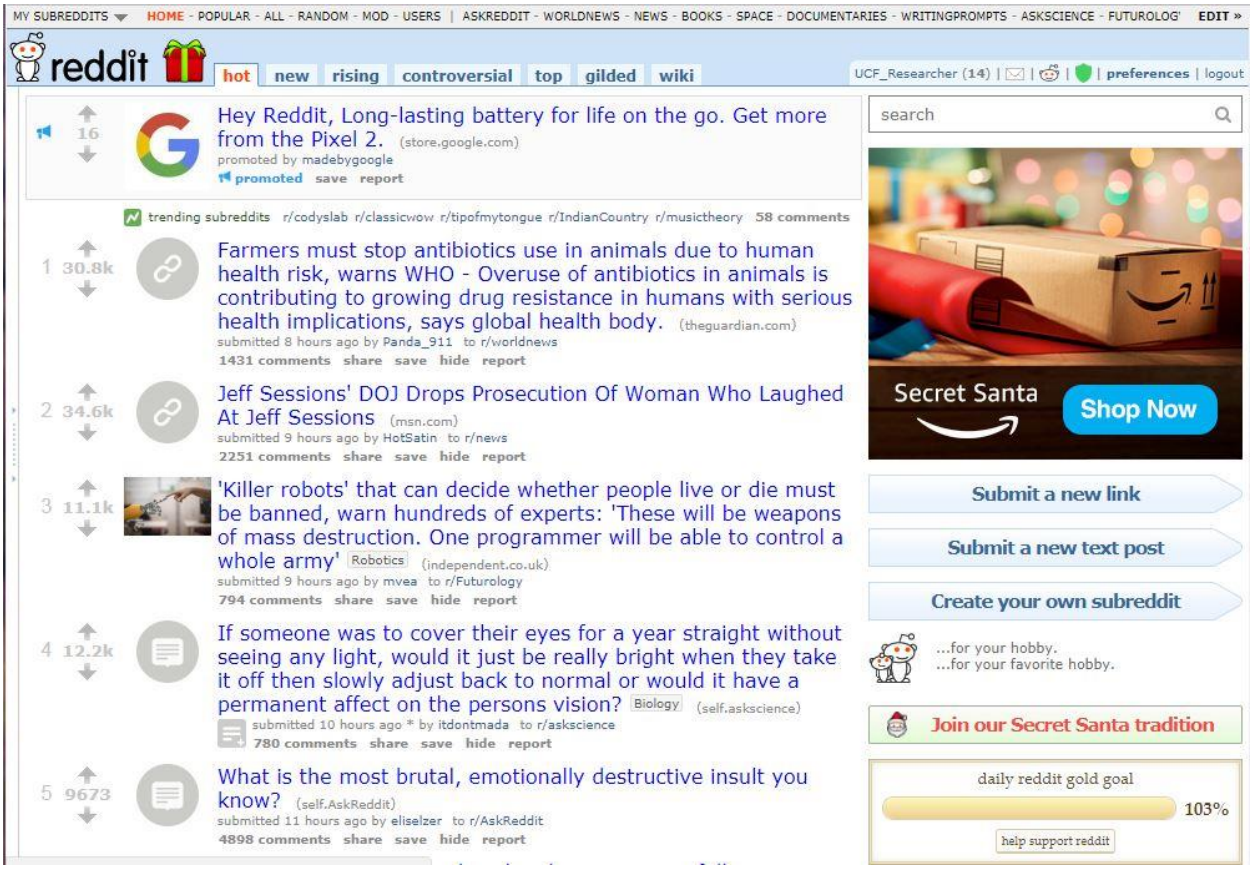

Figure 3. Reddit frontpage

User submissions are made in a variety of forums called “subreddits” organized by topic. Topics are diverse ranging from news to movies to politics to science to general questions. With over nine thousand active subreddits each and every interest under the sun more than likely has a subreddit dedicated to it within the Reddit website. Users within the community have the ability to create their own subreddits making them visible to the public, or crucially private and only visible to invited members. User submissions can be voted up or down by members of the

community impacting their visibility to the general public accessing the website. Within submissions users have the ability to leave comments allowing for an organized discussion of any topic. Like user submissions, user comments can be voted up or down impacting their visibility to those engaging in the discussion in the comments section.

As an online platform Reddit has the potential to be used for data collection. Reddit is available to the public, freely accessible to anyone with internet access. Reddit is also completely free to users generating revenue from advertisements placed on its websites. From a cost standpoint conducting an online focus group on Reddit carries with it no cost other than that of the researcher's time. As a result Reddit is advantageous from both a cost standpoint (Shatz, 2017) and its ability to deliver results similar in quality to in-person focus groups (Richard et al., 2018).

Why use an online platform for focus groups?

The potential advantages of conducting a focus group via an online platform versus a traditional in-person focus group can be explored through the lens of discourse theory. Online platforms (e.g. Reddit) as opposed to in-person focus groups operate primarily via textual conversations. These online text-based contributions are a form of computer-mediated discourse. Several factors related to the structure of messaging contribute to the effectiveness of computer-mediated discourse. Those message factors that are most relevant to online platforms like Reddit and their functionality are: anonymity, synchronicity, length, persistence, and organization (Herring, 2007).

Anonymity

According to Spears and Lea (1994, p.435), "under the protective cloak of anonymity users can express the way they truly feel and think". Online platform user's voluntary choice to remain anonymous, through usernames and avatars, therefore offers a sense of protection from reprisal. How users perceive their thoughts and beliefs will be interpreted by others, whether it is unspoken or as written or verbal feedback, ultimately affects what the participants will choose to share and make public. Researchers have shown that in anonymous situations people self-report lower levels of social anxiety and social desirability and higher levels of self-esteem (Joinson, 1999). Within in-person focus groups the fear of reprisal or negative assessment of one's contributions by other participants has been proposed to result in potential ideas being withheld from the group (Harari & Graham, 1975). Online within the protective cloak of anonymity group members may feel more comfortable and perceive less ridicule for asking "foolish" or unpopular questions (Aiken, Krosp, Shirani & Martin, 1994). As a result the anonymity afforded by the online platform should encourage users to generate a more diverse set of higher quality contributions.

Synchronicity

A common belief is that large in-person groups should be more effective in idea generation versus smaller in-person groups, a hypothesis that has not been substantiated through research (Valacich, J. S., Dennis, A. R., & Nunamaker, J. F., 1992). Rather it has been shown that group interaction dysfunctions, most importantly production blocking, outweigh the potential performance gains of groups and increased group size. Production blocking is the

phenomenon where only one member of the group can speak at a time. As a result some ideas are forgotten while waiting to be contributed, an emphasis is placed on remembering an idea to contribute rather than generating new ideas, and listening to others inhibits the generation of new ideas (Diehl & Stroebe, 1991; Mulligan & Hartman, 1996; Straus, 1996).

Users participating in an online focus group via Reddit will benefit from its platform functionalities. Relative to an in-person focus group all participants in an online conversation can contribute simultaneously. When idea generation was tested with computer-mediated idea generation systems (which allowed for simultaneous contributions) during a face-to-face session, the results showed that larger groups were able to generate a greater number of unique ideas (Valacich, Dennis & Nunamaker, 1992). Additionally, as group sizes grow, performance increases in electronic brainstorming groups whereas performance decreases in verbal brainstorming groups (Aiken, Krosp, Shirani & Martin, 1994). It is believed that the ability to minimize process losses, specifically production blocking, was the main contributor of the success of larger groups. Therefore lower levels of production blocking in an online platform such as Reddit should result in users generating a greater quantity of contributions.

Persistence

In traditional focus groups ideas that are generated are sometimes listed on a board or a flip-chart either by the researcher or the participants based on when they were submitted during the session (Kitzinger, 1995). In contrast, electronic channels such as Reddit are configured to automatically store and retain entries, allow for parallel communication, supporting users distributed by time and space. This functionality enables a level of group interaction that would

be challenging to replicate in a verbal, face-to-face environment (Huber, 1990). As a result contribution persistence should result in users generating a greater quantity of contributions.

Size

Traditional in-person focus group contributions are constrained in length and quality by the participant's ability to develop on-the-spot contributions and the time limit inherent to the focus group (Kitzinger, 1995). In an electronic environment, such as Reddit, contributions can be nearly limitless in size (i.e. number of characters) (Herring, 2007). In addition, in an online platform users can craft, edit and refine their contributions over time prior to submission. It is therefore likely that lesser restrictions on contribution size will result in users generating larger more detailed contributions.

Format

On an online platform contributions are organized in part based on user's input in grouping and layering submissions. In the case of Reddit users have the ability to vote up or down all comments made by other users. These votes determine how prominent a comment is within the overall discussion. Furthermore Reddit users have the ability to decide where within a discussion they would like to place their comment. Thus, participants can more easily determine what contributions have already been made as they are grouped. As a result participants are less likely to replicate a contribution made by a fellow participant and are better able to add a peripheral comment to an existing contribution. Therefore contribution format is likely to result in users generating a greater quantity of contributions.

How to use an online platform

Conducting an online focus group via Reddit has the potential to generate high quality ideas at a fraction of the cost of traditional focus groups. Reddit users, safe in anonymity and empowered with the ability to contribute simultaneously, can take advantage of the platform's ability to store and retain an almost unlimited number of contributions, organized based on their input. For firms considering conducting an online focus group via Reddit, a successful outcome can be achieved, although it will require preparation and adherence to proper procedures. Below are a series of steps designed to assist firms in conducting a focus group via Reddit:

Reddit focus group steps to success:

1. Create a subreddit (i.e. online forum) to host your focus groups
2. Decide who you want to participate
3. Develop focus group guidelines
4. Submit a focus group post
5. Monitor responses and provide assistance
6. Transfer results for analysis

Create a subreddit (i.e. online forum)

In order to successfully conduct an online focus group via Reddit the first step a firm must take is to create a subreddit to host the focus groups. In order to create a subreddit a Reddit user account must first be generated. Little information is required for the user account. A username and password must be selected and an email address provided. With the Reddit user account active there are two requirements that Reddit enforces for requests to create new subreddits. First the user account must be at least thirty days old. Second the account must have

a minimum level of activity within the Reddit website. The minimum activity requirement is considered met when the user participates in basic activities such as making posts and providing comments to existing posts. In the case of Richard et al. (2018) this requirement was met via the posting of two news articles and by making a handful of discussion comments.

Once the basic requirements have been met a new Reddit user can proceed to creating a new subreddit. A word of caution, once created a subreddit cannot be deleted and the name cannot be changed. Firms therefore should carefully choose the name of the subreddit ensuring that it broadly represents the brand of the firm, the intended goals for the current and future focus groups and that it is free of errors. To create the new subreddit a researcher should proceed to the subreddits page on the Reddit website (i.e. https://www.reddit.com/reddits/) and click on the "Create your own subreddit" link. The researcher will be asked to provide a name, description information, and type for the subreddit (see image 2 for example). Here type refers to the level of privacy. A public subreddit can be viewed and accessed by anyone whereas a private subreddit can only be viewed and accessed by approved users. The setting the researcher chooses should largely be determined by the desired sampling method and selection of potential participants.

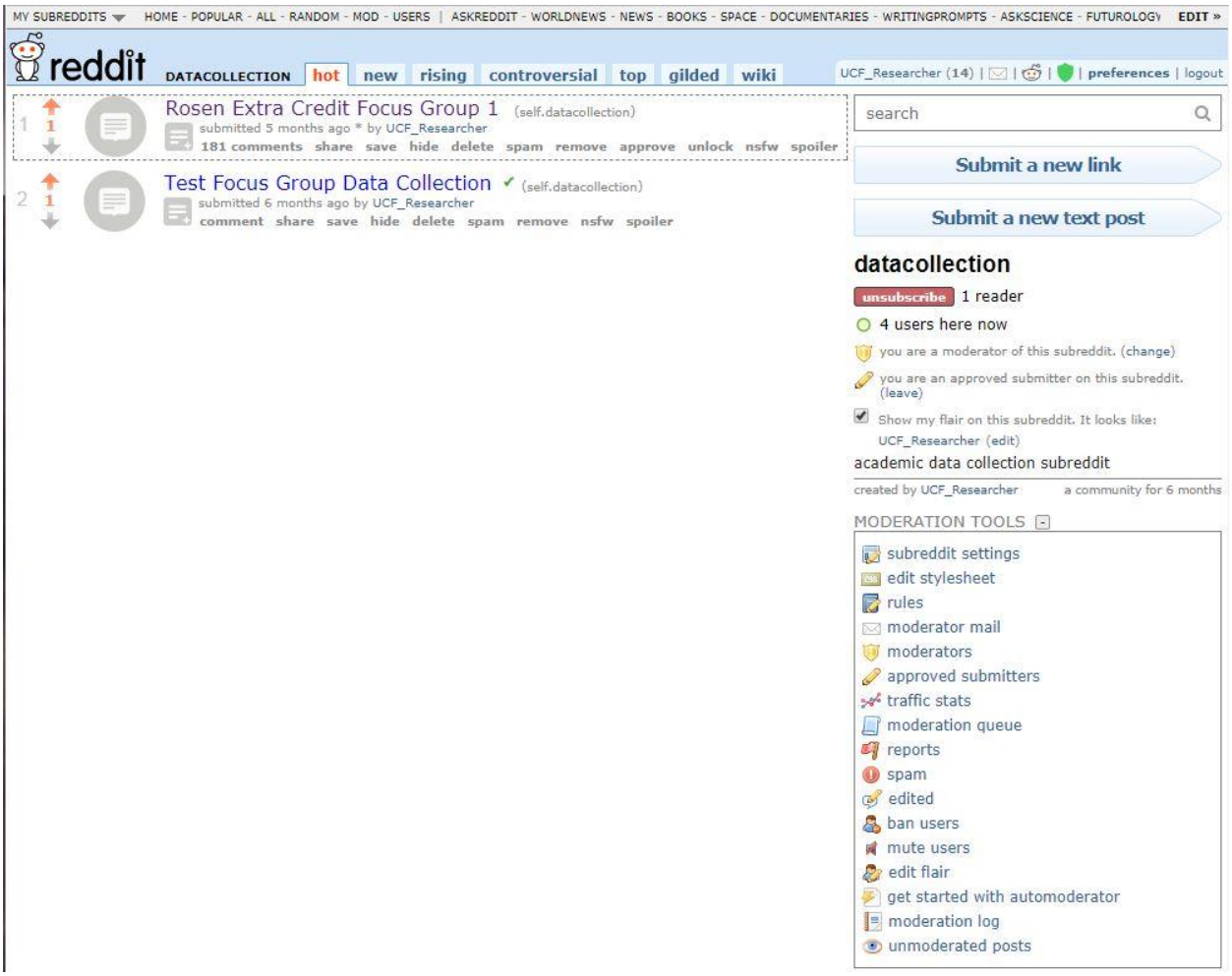

Figure 4. Created subreddit

Decide who you want to participate

Richard et al. (2018) successfully showed how randomly assigned participants to an online focus group conducted via Reddit are able to achieve a similar quality of results as an equivalent series of in-person focus groups. Like Richard et al. (2018) it is possible that researchers will seek to control access to who can and cannot participate in the online focus group. Researchers might have a research topic that applies specifically to a certain demographic or wish to obtain new product ideas only from those individuals who have used the

firm's products in the past. In either case if the researcher would like to control who can and cannot participate in the focus groups it is best to create a private subreddit. Whereas in a public subreddit any user can view and contribute to the discussion, in a private subreddit only those users who the researcher has pre-approved will be able to read and contribute.

For a private subreddit one method for recruitment would be to have potential participants complete an online survey (e.g. SurveyMonkey, Qualtrics) first answering questions that will help the researcher determine their appropriateness for the focus group. They would also be asked to create a Reddit user account and provide their username and in the survey. The researchers should advise potential participants to create a username that is anonymous, doing their best to ensure that other potential participants won't be able to identify them based on their username. Alternatively the researcher can create a unique account and anonymous username (e.g. participant001) for each participant, although depending on the desired number of focus group participants this might become laborious relative to allowing participants to select their own username.

If after the completion of the pre-screening survey the researcher determines that the potential participant is a good fit for the focus group study access to the private subreddit can be granted to the user by the researcher. A subreddit moderator can add approved submitters via the moderation tools listed on the right side of the subreddit (see image 2). By clicking on the "approved submitter" link the moderator has the ability to "add approved submitter" by entering their username. All users approved for the subreddit will appear in a list on the page with the option to message or remove that user from the subreddit.

Develop focus group guidelines

In any focus group it is important that the moderator (i.e. the researcher overseeing the focus group) take an appropriate amount of time at the beginning of the study to properly instruct the participants on basic guidelines, what to expect and how to conduct themselves. This basic principle of focus groups is no different when they are conducted online. Rather than verbally though this important information can be communicated to online focus group participants on Reddit via the comment section at the top of the post reserved for the creator of the post.

As one example Richard et al. (2018) provided a focus group question to participants on Reddit focused on sustainability in the hospitality industry. The researchers opened with a greeting thanking participants for taking part before proceeding to the actual idea generation question. Following the question the researchers clarified which responses would be deemed acceptable, noting that all ideas were welcome, and that there were no wrong answers. Next the researchers provided tips for approaching the exercise including reading other participants contributions first, submitting new ideas, commenting on existing ideas and trying to limit each comment to only one specific idea. Finally basic procedural information was provided to the participants informing them when the focus group would be "open" for their discussion and for how long they were expected to participate (see image 3).

Submit a focus group post

Creating a new focus group is a quick and painless activity. Subreddit moderators can create a new post from which to host the focus group by clicking on the "Submit a new text post" link on the main subreddit webpage. Reddit will ask the researcher for a "title" for the post, in

additional to “text” where the researcher can place the focus group guidelines previously discussed. Once the information has been entered the researcher selects the “submit” button at the bottom of the page and the post is created and ready for submission from participants. The post will have a dedicated web address that can be provided to participants. Please remember that the link will only work for those participants that have been pre-approved for subreddit access. Finally to ensure that the focus group begins and ends at a time of the researchers choosing, please note the moderator option on the post page (just below the “text”) to “lock” or “unlock” the post. When a post is locked users can view the post but cannot submit comments to add to the discussion (see image 3 for example). By using this functionality researchers have the ability to manually set the beginning and end date and time for the online focus group.

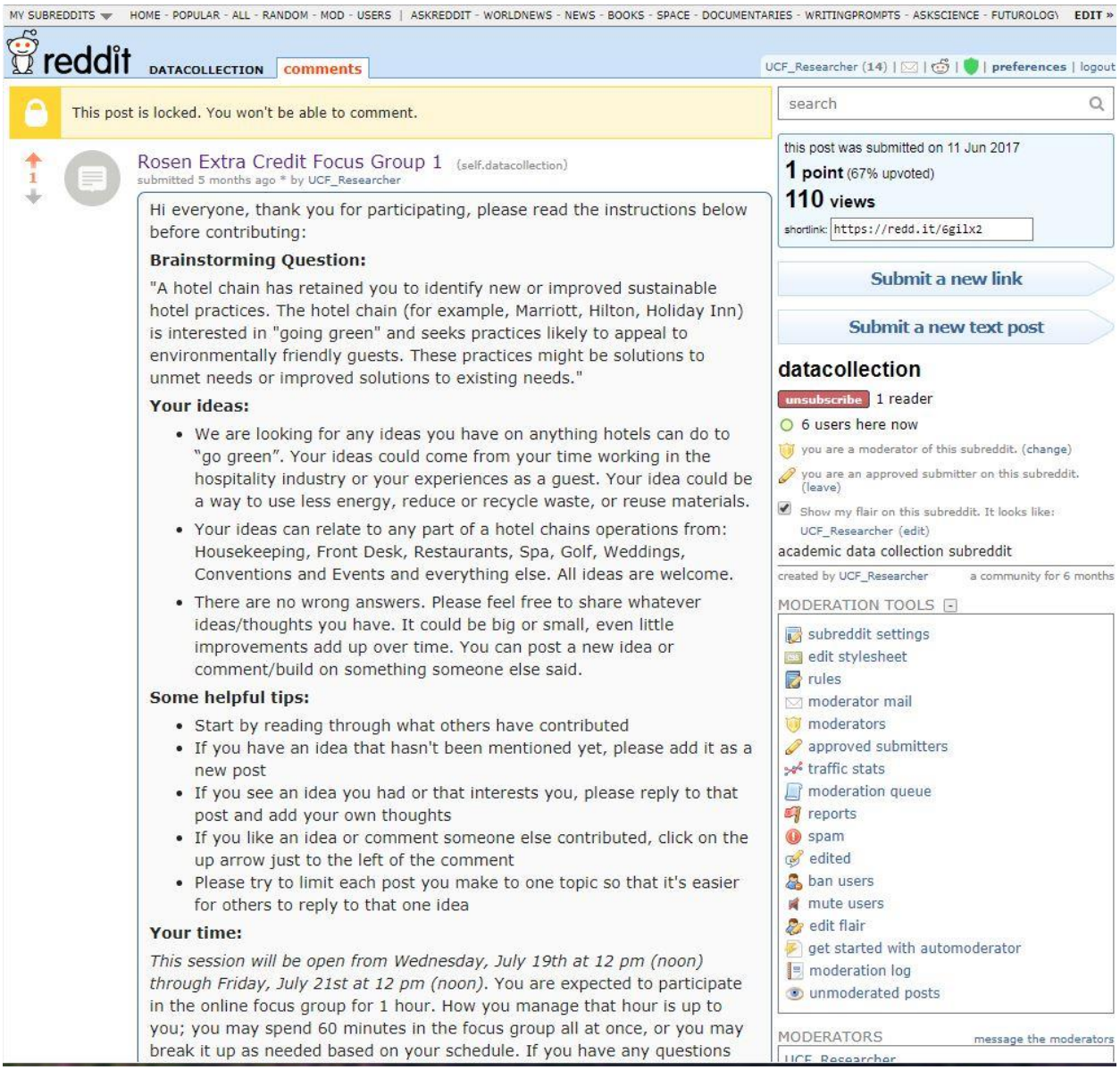

Figure 5. Created subreddit post

Monitor responses and provide assistance

Throughout the course of the focus group it is important for the researchers to regularly check-in on the state of the focus group and its participants. By assessing usernames that have contributed to the discussion researchers can determine which participants are engaged and reach

out to those that haven't with friendly reminders. Periodically reading through comments as they are submitted will help ensure that participants are staying mostly on topic and are not engaging in any destructive behavior that might cause harm to other participants. Finally actively reading the comments will allow researchers the ability to determine if any clarifying points need to be made either to individual participants or to the group as a whole via the focus group guidelines with the "text" section at the top of the post.

Transfer results for analysis

Once the focus group has been completed the researchers can stop user contributions to the discussion by selecting the "lock" option previously discussed. At this point while users will be able to view the post, they will not be able to make any further submissions. As all of the contributions are text-based at this point it is relatively simple to transfer participant contributions to a local file for assessment and analysis. Contributions for example can be copy and pasted into excel where traditional content analysis can take place. Due to the embedded nature of submissions within Reddit it is also possible, although a manual and somewhat time-consuming process, to easily assess the levels at which a comment was made (i.e. whether it was a new "parent" contribution or a subsequent "child" comment). Finally the text-based nature of the online platform allows the researchers the ability to tie the contribution to the username to the participant, something that is much more laborious in a traditional in-person focus group.

Opportunities and challenges

The Opportunities

Conducting a focus group via Reddit, an online platform, represents the opportunity to achieve a similar quantity and quality of ideas at a significantly lower cost. Previous studies have shown that conducting focus groups online can result in a similar number and diversity of ideas (Schweitzer et al., 2012; Woodyatt et al., 2016). Recent studies have also shown that online focus groups conducted via Reddit can generate a similar level of quality of ideas (Richard et al., 2018). Finally studies have shown that costs can be lower for online studies (Schweitzer et al., 2012). As a result it is easy to see how firms engaging in online focus groups could obtain a higher return on investment than those pursuing traditional in-person focus groups.

Another factor to consider is the ability of a firm to successfully attract participants to its focus group. In a traditional focus group participants typically have to be incentivized to take part in a study, dedicating their time to travel to a specific location. Quite often these incentives fail with participants arriving late or not at all. In an asynchronous online environment participants can contribute at a time and place of their choosing. As a result it is possible that firms will find it easier to successfully recruit participants for online focus groups versus in-person. Rather than dedicating resources to finding a location to host the focus group and coordinating the schedules of multiple participants to triangulate the most advantageous time for the session, a firm can instead focus on identifying the best potential participants and/or achieving cost savings on the project.

Finally there are significant cost savings that can be achieved in the areas of transcription and data analysis. In a traditional focus group the session has to be recorded to retain the data collected. Those recording then have to be transcribed typically at significant cost to the firm as accurate data transcription can be challenging, especially when there are more than two individuals speaking sometimes simultaneously. Even if the data can be transcribed efficiently and effectively at a reasonable cost, an additional step is required to match the transcribed text with the participant who was speaking. In an online focus group conducted via Reddit or a similar online platform neither of these steps are required as the data is already text-based and each contribution has a participants username associated with it.

The Challenges

One of the most significant challenges a firm will face is organizational resistance to the notion of conducting focus groups in an online setting as opposed to the traditional in-person format. From those individuals who are steeped in the traditional process of "it's always been done this way" to the resistance to learning a new online method, it might be challenging to convince leadership to approve a new method of data collection. This paper was written to help overcome this organizational resistance. The goal was two-fold. First, to justify why firms should consider conducting focus groups online - namely that they represent a potentially higher return on investment. Second, to help explain how an online focus group could be conducted via an online platform (e.g. Reddit) to show how practical and relatively simple the process can be.

Recommendations for organizations

For firms invested in the new product development process successful idea generation is critical. For a firm conducting idea generation online focus groups represent a way to achieve consistent results at a lower cost to the benefit of the stakeholders. Perhaps one of the greatest opportunities a firm has in engaging in an online focus group is the opportunity to open up the process beyond a mere handful of participants to the entire world. Opening a focus group to an online crowd of strangers through an online platform (e.g. Reddit) allows a potentially global set of participants the opportunity to come together and discuss a topic of interest (Ford, Richard and Ciuchta, 2015).

Opening up to the crowd

Crowdsourcing, a recent and growing phenomenon, is the process of solving a problem through an open call to an online community, or group of strangers, who work collectively to co-create solutions (Dawson & Bynghall, 2011). Enabled by the proliferation of the internet, personal computers, and the emergence of Web 2.0 (interaction and participation in the Web) and supported by the untapped creative capabilities of individuals with spare discretionary time (Richard, 2013), crowdsourcing allows for higher quality and shorter lead time solutions than through traditional forms of outsourcing (Lakhani, Garvin, & Lonstein, 2010). Opening up the idea generation process to a crowd leads to a greater number of participants allowing for more diversity and ultimately to higher quality submissions (Kozinets, Hemetsberger, & Schau 2008).

More and more firms are attempting to learn about crowdsourcing, its benefits and how they can take part. Harnessing the strength and wisdom of the crowd need not be limited to

random strangers either. A firm can choose to harness an existing crowd or attempt to build one of its own. For example a firm could attempt to develop a crowd from its own employees or its customers rather than just the general public (Prpic et al., 2015). Perhaps one of the most critical steps in deciding to engage in the crowdsourcing process is identifying the right champion within the firm to ensure the project is successful. It is important for a firm to identify a champion that is passionate about the project and is willing to commit to achieving the goal. The firm's champion needs to be able to effectively communicate across the organization and have strong project management skills (Ford, Richard & Ciuchta, 2015).

A firm that decides to take part in an online focus group sent out to the crowd can help ensure its success by identifying the right champion, giving that individual the proper resources and adequately preparing them for internal resistance. It is important for the firm to provide the champion with the backing of its leadership. By its very nature engaging in this type of activity will be very new to most people and will require support from across the organization. Without leadership support it will be difficult to obtain the necessary buy-in from all parties involved in the process. Finally a champion must be ready for pushback from those individuals in the organization that are unsure of how an online focus group would work or that are unused to change. The champion's tools in this fight are the value that conducting idea generation via online focus groups sent to the crowd can bring. Highlighting a higher return on investment, potential cost savings and the possibility of diverting company resources to other more exciting projects are all powerful messages that can help ensure the successful completion of a crowdsourced project (Ford, Richard & Ciuchta, 2015).

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GENERAL DISCUSSION

The goal of this study was to empirically assess the relative effectiveness of conducting online versus in-person focus groups. To achieve this goal the researcher designed an experiment to test the idea generation capabilities of online text-based focus groups versus traditional in-person focus groups. Previous studies were limited in their assessment criteria of focus groups typically focusing on only one specific aspect of the output. Most studies limited their assessment of the comparative efficiency of focus groups to a qualitative content analysis of the discussion topics or ideas generated. This is in opposition to the outputs of focus groups that are most relevant and valuable to researchers and firms, namely the value of the ideas generated. While idea diversity is important, and a greater level of diversity should lead to a higher quality idea, that is not always the case.

As a result this study sought to provide a comprehensive assessment of the comparative effectiveness of online versus in-person focus groups. To achieve this goal the researcher designed an experiment that would allow for assessment of both the quantity and quality of the ideas generated. Participants were purposively sampled and randomly assigned to one of two treatment groups delivering a stronger methodology than had been achieved in the past in previous studies.

The results of paper one showed that while the in-person focus groups were capable of generating a larger overall word count and a higher number of ideas, online focus groups were able to achieve an equivalent number of unique ideas. In regard to the diversity of the data both online and in-person focus groups generated a similar number of idea themes, with a high level of overlap between the two. Paper two showed that online focus groups were comparable not

only in quantity but also in quality of ideas. The online focus group achieved a comparable average quality of ideas when assessed via the measures of novelty, usefulness and feasibility. Critically online focus groups were able to generate a similar number of "good" and "great" ideas, those ideas most valuable to researchers and firms. The results of this study show that online focus groups are capable of generating a comparable level of idea quantity, quality and diversity relative to in-person focus groups

APPENDIX A: IRB APPROVAL LETTER

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Brendan M. Richard**

Date: **April 12, 2017**

Dear Researcher:

On 04/12/2017, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Assessing the effectiveness of in-person versus online focus groups for idea generation
Investigator:	Brendan M. Richard
IRB Number:	SBE-17-12957
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Gillian Amy Mary Morien on 04/12/2017 11:14:28 AM EDT

IRB Coordinator

APPENDIX B: JOURNAL PUBLICATION

Decision Letter (IJCHM-11-2017-0715.R1)

From: assaf@isenberg.umass.edu

To: brendan.richard@ucf.edu

CC: fevzi.okumus@ucf.edu

Subject: International Journal of Contemporary Hospitality Management - Decision on Manuscript ID IJCHM-11-2017-0715.R1

Body: 28-Jan-2018

Dear Mr. Richard:

It is a pleasure to accept your manuscript entitled "Online focus groups: A valuable alternative for hospitality research?" in its current form for publication in International Journal of Contemporary Hospitality Management. The comments of the reviewer(s) who reviewed your manuscript are included at the foot of this letter. By publishing in this journal, your work will benefit from Emerald EarlyCite. This is a pre-publication service which allows your paper to be published online earlier, and so read by users and, potentially, cited earlier.

Please go to your Author Centre at https://mc.manuscriptcentral.com/ijchm (Manuscripts with Decisions for the submitting author or Manuscripts I have co-authored for all listed co-authors) to complete the copyright assignment form. We cannot publish your paper without this. All authors are requested to complete the form and to input their full contact details. If any of the contact information is incorrect you can update it by clicking on your name at the top right of the screen. Please note that this must be done prior to you submitting your copyright form. If you would like more information about Emerald's copyright policy, please visit the Information & Forms section in your Author Centre.

If you have an ORCID please check your account details to ensure that your ORCID is validated.

FOR OPEN ACCESS AUTHORS: Please note if you have indicated that you would like to publish your article as Open Access via Emerald's Gold Open Access route, you are required to complete a Creative Commons Attribution Licence - CCBY 4.0 (in place of the standard copyright assignment form referenced above). You will receive a follow up email within the next 30 days with a link to the CCBY licence and information regarding payment of the Article Processing Charge. If you have indicated that you might be eligible for a prepaid APC voucher, you will also be informed at this point if a voucher is available to you (for more information on APC vouchers please see http://www.emeraldpublishing.com/oapartnerships

Please complete the following short survey about your experiences submitting a paper via ScholarOne Manuscripts: https://www.surveymonkey.co.uk/r/VHD669Y

If you would like more information about Emerald's copyright policy please visit the Information & Forms section in the Resources section of your Author Centre.

We look forward to your continued contributions to the Journal.

Sincerely,
Dr. Albert Assaf
Guest Editor, International Journal of Contemporary Hospitality Management
assaf@isenberg.umass.edu

APPENDIX C: METHODS

Rosen College student population demographics (sex and ethnicity):

APPENDIX B: STUDENT ENROLLMENT PER COLLEGE AS OF FALL 2015

ROSEN COLLEGE OF HOSPITALITY MANAGEMENT

ASIAN	Male	26	0.9%
	Female	62	2.1%
BLACK/AFRICAN AMERICAN	Male	51	1.7%
	Female	152	5.2%
HISPANIC/LATINO	Male	138	4.7%
	Female	421	14.3%
AMERICAN INDIAN/ALASKAN NATIVE	Male	2	0.1%
	Female	3	0.1%
MULTIRACIAL	Male	23	0.8%
	Female	71	2.4%
NON-RESIDENT ALIEN	Male	14	0.5%
	Female	39	1.3%
NATIVE HAWAIIAN/OTHER PACIFIC ISLANDER	Male	1	0.0%
	Female	4	0.1%
WHITE	Male	460	15.7%
	Female	1443	49.2%
NOT-SPECIFIED	Male	9	0.3%
	Female	15	0.5%
TOTAL	Male	724	24.7%
	Female	2210	75.3%

UCF | Office of Diversity and Inclusion

Initial survey instructions to potential participants:

SURVEY AND TASK INSTRUCTIONS

If you are participating you will need to do the following two things:

1) Complete a survey online (it will take up to 5 minutes).
2) Complete a focus group activity (1 hour). You will be randomly assigned into one of two groups: In-person focus group (on-campus before or after class) or online focus group (on your own time).

1) First, please click on the Survey link below and follow instructions to complete the survey. You will be asked to provide basic information like your name, email address, age, and academic and professional standing:

Survey link: **[Qualtrics Link TBD (Survey questions provided as a separate attachment)]**

2) Upon completing the survey you will be randomly assigned into one of two groups, each one requiring a 1 hour time commitment. You will be sent an email notifying you which group you have been randomly assigned.

Participants may expect to spend 65 minutes total completing the survey and performing the focus group task. Extra credit will be made available for completion of the surveys and the task. If you are offered this research study in multiple classes, you will only receive extra credit in one class of your choosing. All survey and task data collection will be completed by the end of the summer semester.

Study contact for questions about the survey or to report a problem: If you have questions, concerns, or complaints, please contact the investigators listed below.

Sincerely,

Brendan Richard
PhD Candidate
University of Central Florida
Tel: 407-782-5154
Email: brendan.richard@ucf.edu

University of Central Florida IRB
IRB NUMBER: SBE-17-12957
IRB APPROVAL DATE: 04/12/2017

Initial survey questions:

Q1). Explanation of Research

Response option: N/A

Q2). I have read and understand the above statement:

Response option: Yes

Q3). Please write your last name in the field below:

Response format: Open

Q4). Please write your first name in the field below:

Response format: Open

Q5). Please write your UCF knights email in the field below:

Response format: Open

Q6). Please select the class section you are in below.

Response options: TBD (Class section names)

Q7). Please select all of the time slots that you are available for an in-person focus group.

Response options: TBD (Time slots)

Q8). Please write the name of your academic major below:

Response format: TBD (Majors)

Q8). Please select your academic level below:

Response options: freshman, sophomore, junior, senior, other

Q9). What is your age (in years)?

Response format: Open (3 digits)

Q10). What is your sex?

Response options: Male, Female

Q11). Are you currently employed?

Response options: Yes, No

Q12). About how many hours do you typically work in an average week?

Response format: Open

Q13). About how many years of work experience do you have (in any industry)?

Response format: Open (3 digits)

Q13). About how many years of work experience do you have in the hospitality industry? (e.g. 5)

Response format: Open (3 digits)

In-person treatment group assignment example instructions:

(ASSIGNMENT GROUP 1: IN-PERSON FG1)

Extra Credit Assignment: In-Person Focus Group (Tuesday, June 13th; 12:30 to 1:30pm; Rosen Room 102)

You have been randomly assigned to participate in a one hour **in-person focus group** on Rosen campus in which you will be asked to brainstorm hospitality ideas.

Based on the availability you noted during your initial survey, you have been assigned the following date, time and location for the in-person focus group:

Date: Tuesday, June 13th
Time: 12:30 to 1:30pm
Location: On-campus Rosen **Room 102**

During the focus group session you will take part in a brainstorming activity with your fellow focus group participants. You don't need to bring anything with you. The focus group will take approximately one hour, and will be audio & video recorded. The recordings will be transcribed into text and then destroyed.

Food and drinks will be provided. Extra credit will be made available to you upon completion of the task.

Study contact for questions about the task or to report a problem: If you have questions, concerns, or complaints, please contact the investigator listed below (not your professor).

Sincerely,

Brendan Richard
PhD Candidate
University of Central Florida
Tel: 407-782-5154
Email: brendan.richard@ucf.edu

University of Central Florida IRB
IRB NUMBER: SBE-17-12957
IRB APPROVAL DATE: 04/12/2017

Online treatment group assignment example instructions:

(ASSIGNMENT GROUP 2: ONLINE PART 1)

Extra Credit Assignment: Online Focus Group (Tuesday, June 13th at 12 pm (noon) to Thursday, June 15th at 12 pm (noon))

You have been randomly assigned to the **online focus group** in which you will be asked to brainstorm hospitality ideas.

You are expected to participate in the online focus group for 1 hour. How you manage that hour is up to you; you may spend 60 minutes in the focus group all at once, or you may break it up as needed based on your schedule. The online focus group session will be open for you to participate in from:

Tuesday, June 13th at 12 pm (noon) through Thursday, June 15th at 12 pm (noon)

You will be randomly assigned a username and password and provided the online link in a separate email that will be sent to you later today.

Extra credit will be made available to you upon completion of the task.

Study contact for questions about the task or to report a problem: If you have questions, concerns, or complaints, please contact the investigator listed below (not your professor).

Sincerely,

Brendan Richard
PhD Candidate
University of Central Florida
Tel: 407-782-5154
Email: brendan.richard@ucf.edu

University of Central Florida IRB
IRB NUMBER: SBE-17-12957
IRB APPROVAL DATE: 04/12/2017

(ASSIGNMENT GROUP 2: ONLINE PART 2)

Extra Credit Assignment: Online Focus Group (Link; Username; Password)

You have been randomly assigned a username and password provided below that will allow you access to the focus group session. The username and password do not contain any personally identifiable information.

You will click on the link which will take you to the online session. You will then log-in with your username and password. You will be expected to spend 1 hour contributing to the focus group. The 1 hour can be all at once, or split up into smaller increments depending on your preference. Your text-based contributions from the focus group session will be saved by the researchers.

The session opens on Tuesday, June13th at 12pm (noon) and will close on Thursday, June 15th at 12pm (noon).

Online Link: Exact Link TBD
Your username: TBD
Your password: TBD

Extra credit will be made available to you upon completion of the task.

Study contact for questions about the task or to report a problem: If you have questions, concerns, or complaints, please contact the investigator listed below (not your professor).

Sincerely,

Brendan Richard
PhD Candidate
University of Central Florida
Tel: 407-782-5154
Email: brendan.richard@ucf.edu

University of Central Florida IRB
IRB NUMBER: SBE-17-12957
IRB APPROVAL DATE: 04/12/2017

Alternative assignment example instructions:

(ALTERNATE ASSIGNMENT)

Extra Credit Assignment: Individual Focus Group (Due: Thursday, June15th at 12pm (noon))

You will be participating in a 1 hour focus group session by yourself at a time of your choosing in which you are asked to brainstorm hospitality ideas.

The output from your individual efforts will be due by the date and time below:

Deadline: Thursday, June15th at 12pm (noon)

Taking 1 hour, please respond to the question below by generating as many ideas as possible. Write your ideas down electronically using a word document. Please bullet or number the ideas. Once completed please email the document back to the researcher at Brendan.richard@ucf.edu with the email header: "Individual focus group response". Do NOT email the assignment to your professor.

Brainstorming Question:

A hotel chain has retained you to identify new or improved sustainable hotel practices. The hotel chain (for example, Marriott, Hilton, Holiday Inn) is interested in "going green" and seeks practices likely to appeal to environmentally friendly guests. These practices might be solutions to unmet needs or improved solutions to existing needs.

Extra credit will be made available to you upon completion of the task.

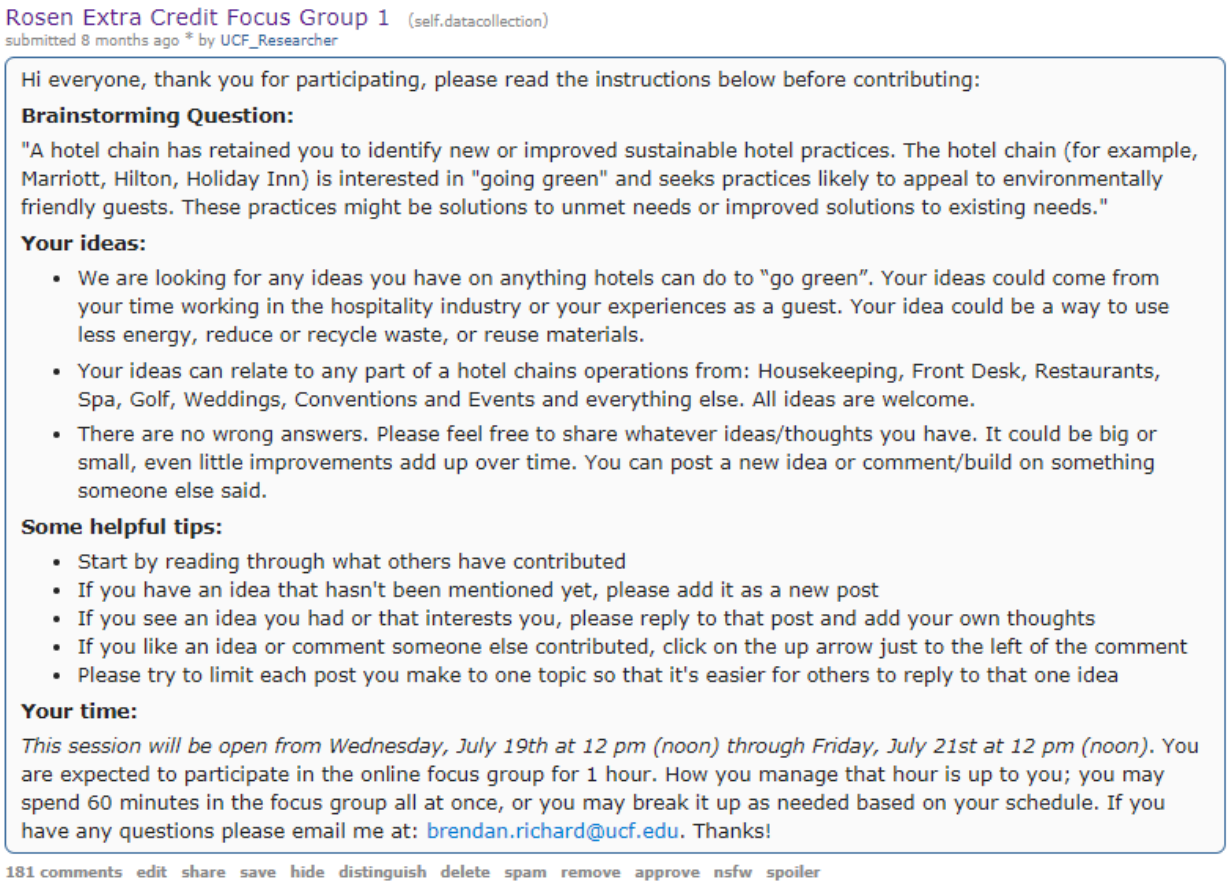
Study contact for questions about the task or to report a problem: If you have questions, concerns, or complaints, please contact the investigators listed below.

Sincerely,

Brendan Richard
PhD Candidate
University of Central Florida
Tel: 407-782-5154
Email: brendan.richard@ucf.edu

University of Central Florida IRB
IRB NUMBER: SBE-17-12957
IRB APPROVAL DATE: 04/12/2017

Online focus group moderator provided instructions:



Rosen Extra Credit Focus Group 1 (self.datacollection)
submitted 8 months ago * by UCF_Researcher

Hi everyone, thank you for participating, please read the instructions below before contributing:

Brainstorming Question:

"A hotel chain has retained you to identify new or improved sustainable hotel practices. The hotel chain (for example, Marriott, Hilton, Holiday Inn) is interested in "going green" and seeks practices likely to appeal to environmentally friendly guests. These practices might be solutions to unmet needs or improved solutions to existing needs."

Your ideas:

- We are looking for any ideas you have on anything hotels can do to "go green". Your ideas could come from your time working in the hospitality industry or your experiences as a guest. Your idea could be a way to use less energy, reduce or recycle waste, or reuse materials.
- Your ideas can relate to any part of a hotel chains operations from: Housekeeping, Front Desk, Restaurants, Spa, Golf, Weddings, Conventions and Events and everything else. All ideas are welcome.
- There are no wrong answers. Please feel free to share whatever ideas/thoughts you have. It could be big or small, even little improvements add up over time. You can post a new idea or comment/build on something someone else said.

Some helpful tips:

- Start by reading through what others have contributed
- If you have an idea that hasn't been mentioned yet, please add it as a new post
- If you see an idea you had or that interests you, please reply to that post and add your own thoughts
- If you like an idea or comment someone else contributed, click on the up arrow just to the left of the comment
- Please try to limit each post you make to one topic so that it's easier for others to reply to that one idea

Your time:

This session will be open from Wednesday, July 19th at 12 pm (noon) through Friday, July 21st at 12 pm (noon). You are expected to participate in the online focus group for 1 hour. How you manage that hour is up to you; you may spend 60 minutes in the focus group all at once, or you may break it up as needed based on your schedule. If you have any questions please email me at: brendan.richard@ucf.edu. Thanks!

181 comments edit share save hide distinguish delete spam remove approve nsfw spoiler

In-person focus group moderator provided instructions:

Welcome

Hi everyone, welcome to this focus group session. Thanks for taking time out of your day to take part, I appreciate it. My name's Brendan and I'm a PhD student at the main campus. I'm working with Marissa Orlowski on a research project. These focus groups are a big help for my dissertation and our research. I love talking about hospitality, so this is really exciting for me.

Focus Group

It's pretty simple. We'll be conducting a brainstorming activity today on sustainability in the hospitality industry. There are no wrong answers. Please feel free to share whatever ideas/thoughts you have, even if their different from others have said. You can talk about a new idea, or build on something someone else said.

Recording

You might have noticed the video camera. We're recording the session because we don't want to miss any of your comments. We will be transcribing what you say into text, and then deleting the recordings. Nothing you say will ever be connected to your name, it will all be anonymous data, like "participant 1 said".

Brainstorming Question:

"A hotel chain has retained you to identify new or improved sustainable hotel practices. The hotel chain (for example, Marriott, Hilton, Holiday Inn) is interested in "going green" and seeks practices likely to appeal to environmentally friendly guests. These practices might be solutions to unmet needs or improved solutions to existing needs."

Your ideas:

We are looking for any ideas you have on anything hotels can do to "go green". Your ideas could come from your time working in the hospitality industry or your experiences as a Guest in a hotel. Your idea could be a way to use less energy, reduce or recycle waste, or reuse materials.

Your ideas can relate to any part of a hotel chains operations from: Housekeeping, Front Desk, Restaurants, Spa, Golf, Conventions and Events and everything else, all ideas are welcome.

There are no wrong answers. Please feel free to share whatever ideas/thoughts you have. You can talk about a new idea, or comment or build on something someone else said.

Rater instructions for rating ideas:

In the next section you will be presented with ideas generated by the focus groups:

What you will see:
• You will be presented with ideas. Each idea represents a proposed hospitality innovation that can potentially help the industry improve sustainability and "go-green"

What you will be asked to do:
• You will be asked to rate the quality of the idea. You will be assessing the extent (on a scale of 1 to 5) to which the idea is:
- Novel (e.g. Unique, Original)
- Useful (e.g. Important, Valuable)
- Feasible (e.g. Possible, Implementable)

Quality item example:

Reduce water usage by using toilets that have a water saving flush mode as an option to guests (#136)

How novel is the idea?	Not at all novel	Slightly novel	Moderately novel	Very novel	Extremely novel
How useful is the idea?	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
How feasible is the idea?	Not at all feasible	Slightly feasible	Moderately feasible	Very feasible	Extremely feasible

Summary reviewer background:

Doctoral Student/Instructor at University of Central Florida

Summary

Experienced Travel Specialist with a demonstrated history of working in the leisure, travel & tourism industry. Skilled in Luxury Goods, Leisure Travel, Sales, Hotel Management, and Sales Management. Experienced instructor within academia, 4th year student, ABD towards a Doctor of Philosophy (PhD) focused in Hospitality Management from University of Central Florida.

Experience

Instructor/Doctoral Student (ABD) at University of Central Florida
August 2014 - Present

Instructor of record for "Introduction to Lodging Operations", mixed mode and face to face courses (avg. of 45 students per class). Responsible for course content in WebCourses, and delivery of lecture. Research interests: drive tourism, sustainability, niche lodging sector, agritourism and slow tourism

Dissertation overview: Electric vehicles as a means of sustainability within the U.S. National Park System.

Adventure Travel Specialist at Alpine Adventures
October 2006 - Present

Coordinate ski trips across the US, Canada, and Europe for clients

Instructor at University of Northwestern Ohio
January 2012 - June 2014 (2 years 6 months)

Instructor in Travel & Hotel Management Program

Office Manager
May 2009 - October 2011 (2 years 6 months)

Guest inquiries and reservations, onsite guest relations, marketing, vendor relations, and bookkeeping.

Education

University of Central Florida
Doctor of Philosophy (PhD - ABD), Hospitality Management, 2014 - 2018
Activities and Societies: Teaching Assistant
University of Central Florida
Master of Science (M.S.), Hospitality and Tourism Management, 2007 - 2009
Activities and Societies: Graduate Research Assistant
Florida Atlantic University
Bachelor of Business Administration (BBA), International Business, 2002 - 2004

Idea reviewer 1 background:

PROFILE

Successful leader with a demonstrable record of creating outstanding: strategic, financial, and operational results in support of operations for world class hotels, restaurants and theme parks. Skills include: Leadership, team building, contract negotiation, F&B pricing strategy, strategic planning, continuous improvement, project management and management.

PROFESSIONAL HISTORY

MGM RESORTS INTERNATIONAL – Las Vegas, NV
Director F&B Pricing and Analytics **4/2017 - Present**

- Managed $2.2B segment
- Project Managed a recipe management system for integration into the MGM culture

WALT DISNEY WORLD - Lake Buena Vista, FL
Senior F&B Analyst **12/2014 – 4/2017**

- Speaker at Disney Data and Analytics Conference presenting "Menu Engineering the Science and Psychology of Choice" Rated in top 10% of all presentations
- Consultant for both domestic and international partners on menu engineering in both digital and print mediums
- Project managed the design and implementation of NALA supply chain system for Revenue Management and Pricing
- Relationship manager for 3rd party consulting firm; including data governance, contract negotiation, improved reporting functionality , ongoing technical training
- Developed and implemented the menu engineering strategy for the domestic restaurants segment with total revenue in excess of $330M in annual revenue
- Member of Learning Development Action Committee chartered with creating a global training and development culture for Revenue Management and Analytics
- Lead team accountable for Digital Menu Board revenue optimization of 20 quick service locations

F&B Pricing Analyst **4/2013 – 12/2014**

- Assisted with creation of Annual Operating Plan and 5 Year Plan driving $40M in incremental revenue.
- Created $2.5M in incremental revenue through unique pricing initiatives (Signature Portfolio, Special Dietary Alignment, Collapsing QSR Burger Categories)
- Evaluated the financial impacts (risks to profit, mix impact, and sensitivity analyses) of new pricing initiatives, including testing and post-mortem analyses to identify profit impact while minimizing Guest impact.
- Managed portfolio including over 100 distinct F&B outlets and all pricing strategies for them.
- Collaborated with senior F&B leaders to educate operating partners on the actions and strategies utilized to arrive at pricing decisions. Resulted in better relationships, better defined pricing procedures, and operational support for new pricing strategies.

Labor Analyst **2012- 2013**

- Managed team responsible for payroll adjustments of 62,000 salaried and hourly cast/employees.
- Created and maintained technical process documentation for the Audit and Compliance team.
- Provided analysis, alternatives and assessments to key stakeholders, including corporate legal, labor/employee relations, operations senior leadership.

Labor Manager **2010 - 2012**

- Direct a team responsible for scheduling 3200+ hourly food and beverage cast members.
- Educate and train operational leadership teams on processes and procedures regarding scheduling, workload, and labor initiatives.

Sous Chef **2006 - 2010**

- Accountable for managing $2 million labor budgets at the Canadian and UK Pavilions and $400K annually for the Food and Wine Festival.
- Provide Leadership to ensure consistent, high quality guest service standards within the operation through coaching and accountability measures while promoting innovation and creativity in an environment that welcomes and embraces change.

OBJECTIVE COOKING, INC – New York, NY
Director of Operations **2004 - 2005**

- Created unique food concept focused on gourmet dumplings
- Successfully project managed full lifecycle of project from needs assessment through implementation
- Forecasted sales level utilizing excel spreadsheets and smoothing techniques required for breakeven, and profitability analysis

CENTRAL PARK BOATHOUSE – New York, NY
Chef de Cuisine **2004**

- Analyzed profit and loss accountability for all culinary departments
- Hired and trained Sous Chef, and kitchen manager to manage all daily operations

ONE CPS @ THE PLAZA HOTEL – New York, NY
Restaurant Chef **2003**

- Managed implementation of collective bargaining agreement with NYC Local 6 Restaurant workers union

TAVERN ON THE GREEN – New York, NY
Executive Sous Chef **2002-2003**

- Developed menu and executed function for James Beard Dinner

WYNDHAM HOTELS AND RESORTS – United States
Executive Sous Chef **1997- 2002**

AWARDS AND CERTIFICATIONS

Top Stock Trader Stetson University Cohort 6
Board Member JCC Greater Orlando Financial Oversight Committee 2010
Beta Gamma Sigma International Business Honor Society 2010
Epcot Food and Wine Festival 2006, 2007, 2008, 2009
Epcot Summer Culinary Challenge Gold Medal 2006

EDUCATION

Stetson University, Celebration, FL
Masters of Business Administration – March 2010

Pennsylvania State University, State College, PA
Bachelor of Science Hotel, Restaurant and Institutional Management – 1997

COMPUTER TRAINING

Microsoft Office Suite, RMS, Ariel, Teradata, SQL, T/SQL, SAP, Business Objects, SAS, Tableau

Idea reviewer 2 background:

- Vice President, Operational Analytics

  MGM Resorts International

- Sr. Manager, Revenue Management & Analytics

  The Walt Disney Company | January 2009 - 2017 | 8 years 1 month | Orlando,Fl

  • Responsible for the Revenue Management of the Food & Beverage line of business for the Walt Disney Company at all five Park & Resorts (Walt Disney World, Disneyland, Disneyland Paris, Hong Kong Disneyland, and Tokyo Disneyland)
  • Develop and implement strategies designed to maximize profits across all lines of business
  • Strategically increased capacity during high demand periods to capture additional demand

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- Manager, Revenue & Profit Management - F&B

  Walt Disney World | January 2006 - January 2009 | 3 years | Orlando, Fl

  Responsible for the identification, development, and implementation of revenue management systems to facilitate the application of revenue management principles and practices to the Food & Beverage line of business across all five Parks & Resorts.

- Senior Analyst, Revenue Management

  Walt Disney World | January 2002 - January 2006 | 4 years | Orlando, Fl

  • Disney Vacations Club (DVC) Revenue Management Team Leader – Responsible for coordination and management of DVC Product, including inventory management, FYP & AOP preparation, and team member development
  • Suites Conversion Project Manager - Partnered with Resort Operations, Central Reservation Operations, and Resort Sales; Conventions, to convert suite inventory from manual system to computerized availability. Resulted in annualized revenue gain of $5.7M and a 30-year NPV of $47M
  • Global Concierge Project Manager – Focused on concierge product segment to create consistent product, message, and brand strategy. Adjusted selling strategies and increased market awareness. Resulted in year-over-year revenue gain of $5.1M and a 30-year NPV of $42M

- Financial Analyst, Revenue Management - Resorts

  The Walt Disney Company | July 1998 - January 2002 | 3 years 6 months | Orlando, FL

  • Maximized room availability within 5-day arrival window through partnering with resort room operation teams resulting in an 11% increase of sold out nights
  • Aggressive management of discount allocation resulted in a 3,000 room night decrease of discount rooms, and a 2,000 room night increase of rack rooms while occupancy increased by 3% for Y&B Resort for October 1999
  • Developed velocity curves by season, by property to determine DOW pooling and Days Left Pool for LOS distribution statistic for RMS upgrade

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- Front Office - Rooms Manager/Guest Service Manager

  WYNDHAM HOTEL MIAMI - BISCAYNE BAY | January 1998 - July 1998 | 6 months | Miami, Fl

  • Responsible for Front Office Operations including Front Desk, Uniform Services, Concierge, Communications, Reservations, Security, and Housekeeping
  • Achieved a Guest Satisfaction Index of 96.5%, an increase of 10%
  • Coordinated hotel operations during $15M renovation project
  • Successfully installed a new PMS system (FIDELIO) converting 25,000 existing reservations and maintaining an AHT of 4.5 min

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- Rooms Manager/Guest Service Manager

  Hilton Hotels - MIAMI AIRPORT HILTON & TOWERS | July 1997 - January 1998 | 6 months | Miami, Fl

  • Responsible for day to day operations of Front Desk, Concierge, Bell Services, Valet, Airport Transportation, Reservations, PBX and Towers Concierge Class
  • Succeeded in increasing RevPAR by 7.16% and occupancy by 2.5% to 82.3%
  • Departmental responsibilities included $16M of rooms revenue and $1M of departmental annual budget; forecasting monthly and annual rooms revenue as well as budget
  • Partnered with Sales Director to authorize all TNT contracts and allotments

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Quality rating distribution:

Quality item distribution of responses by focus group type

Quality Item	Novelty		Usefulness		Feasibiity	
Focus Group	In-person	Online	In-person	Online	In-person	Online
1.0	40	40	3	2	2	1
1.5	9	9	3	3	5	5
2.0	9	13	9	10	8	7
2.5	18	19	6	8	5	7
3.0	7	8	28	13	16	13
3.5	7	6	15	22	11	14
4.0	9	5	27	33	19	22
4.5	6	6	10	10	20	18
5.0	0	0	4	5	19	19