

Creating a Promotional DVD for an International Agricultural Research Center: A Delphi Study

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ABSTRACT

Research was conducted to determine what should be included on a promotional DVD for the International Center for Food Industry Excellence, or ICFIE, an animal and food science research center at Texas Tech University in Lubbock. The researcher utilized a three-round Delphi using online questionnaires. Faculty and industry board members and center staff agreed to participate on the panel of experts. The panel gave 97 items in Round 1 to be considered. In Round 2, panelists reached a 100% consensus on 14 items received 100% consensus and reached the minimum 80% consensus on a total of 65 items. For Round 3, panelists again rated items from Round 2 which not make consensus, and four of these items received at least an 80% consensus. The researcher proposed items receiving 100% consensus should be the focus of the promotional DVD, and items which received more than an 80% but less than 100% consensus should also be shown on the DVD, but should have less focus.

KEYWORDS: Promotion, marketing, agricultural communications, Delphi, DVD, electronic media, communications

INTRODUCTION

The purpose of this study was to evaluate what components should be included on a promotional DVD for ICFIE in order to effectively showcase the features, services, and capabilities potential clientele need or would utilize. The study narrowed down the large amount of components and services ICFIE offers by uncovering the most important features of the center. Experts, or those who serve on the board or work for ICFIE, have the best grasp of the needs of the center and the industry and must designate the most valuable features using their professional opinions.

The following objectives were developed in order to reveal the most important features of ICFIE to use in a promotional DVD and thus accomplish the purpose of the study:

1. Determine what faculty and industry board members of and staff employed by ICFIE believe are the most important features to show on the DVD.
2. Determine what general and specific features of the center should be included.

The theoretical framework used for the study included the needs assessment and key informant models. According to Birkenholz (1999), needs assessment is used to “identify problems or situations that could be solved or improved through educational activities” (p. 71). A needs assessment locates a gap in adult education. Fulfilling the need bridges the gap between adults’ current level of knowledge and the desired level of knowledge as demonstrated in Figure 1 (Birkenholz, 1999). The ICFIE promotional DVD aims to educate adults which have little to no knowledge of the center. Knowledge of ICFIE’s basic information, services, and capabilities serves as the desired level of knowledge. Information from the DVD should bridge the gap.

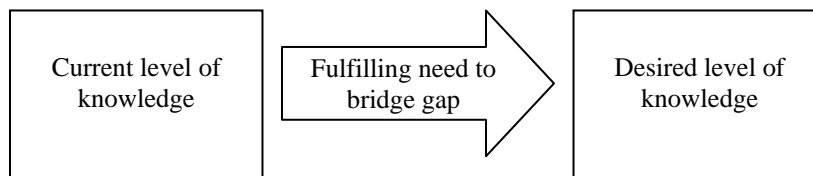


Figure 1: Needs assessment model Birkenholz, 1999).

The Key Informant Model builds on basic needs assessment. It states the informants must be knowledgeable of the target audience’s needs and the informants should be stakeholders in the program. Additionally, the informants’ perceived audience needs should coincide with what the target audience wants as shown in Figure 2 (Birkenholz, 1999). Thus, the effectiveness of educational material is dependent upon content, and using needs assessment in conjunction with the Key Informant Model identifies that content. Because the faculty board members and staff research and develop industry methods and industry board members work in the fields ICFIE targets, they fit in the requirements of the Key Informant Model.

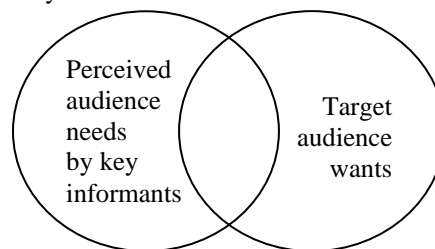


Figure 2: Overlapping of perceived audience needs and audience wants in the key informant model. A large overlapping area translates to effective key informants (Birkenholz, 1999).

The study utilized the Delphi method for the research design. According Linstone and Turoff (1975) and a Web page owned and created by Dr. Marion Joppe of Ryerson University (2005), the Delphi method is a form of qualitative research using a panel of experts selected by the researchers for their knowledge and expertise in a certain area. Joppe also wrote, "The notion is that well-informed individuals, calling on their insights and experience, are better equipped to predict the future than theoretical approaches or extrapolation of trends" (2005).

Selected experts anonymously complete a series of separate questionnaires. Mullen (2003) wrote the questionnaires may be "structured or relatively unstructured" (p. 38), and responses are kept anonymous. The answers from the first questionnaire determine the content of the second; the answers from the second determine the third, and so on as needed. This reduces and narrows the range of responses to eventually find the "best" response or responses (Joppe, 2005). Typically, researchers use a total of three questionnaires (Fischer, 1978). See Figure 3 for a flow chart which illustrates the Delphi method.

The use of the Delphi method in agriculture has primarily been used for curriculum creation and reform (Bailey-Evans, 1994, Simon, 2003, and Stewart, Moore, & Flowers, 2003) and occasionally for expert opinion on forecasting scientific matters (Angus, Hodge, McNally, & Sutton, 2003).

Promotional and marketing content should directly focus on target audience and strive to create a long-term relationship with clients (Garber & Dotson, 2002, and McKee, 2005). Also, John Harlow, an executive for the advertising company, Naked, stated in an interview advertisements should not present a glossed-over, overreaching view of a company because consumers would be disappointed if the companies' products or services were anything less than perfect (Bloom, 2005). Instead, Harlow said companies should strive to present an accurate view of products and services in advertisements (Bloom, 2005). A 1999 article in *Advertising Age* titled Emotion Sells told how McDonald's advertising agency, Burrell Communications Group, believed creating emotional, sentimental advertisements would create an emotional bond between the company and its consumers, and the campaign proved successful (*Advertising Age*, 1999). Also, the University of Texas acknowledged the advantage of accessibility of their electronic magazine, *Vmag*, which allows subscribers an inside look of the Longhorns football program (Varughese, 2005). Because *Vmag* is distributed electronically, there are no geographical limitations or impositions (Varughese, 2005).

Tyson, Ross, Broderick, and Westa (2004) studied the viewing rates of direct-mail discs compared to direct-mail printed materials. Their study stated 90% of people who received the video watched it and were more likely to visit the subject company's Web site, and discs received a 600% higher response rate than printed materials (Tyson, Ross, Broderick, & Westa, 2004).

METHODOLOGY

The study used a three-round Delphi method, designed by the authors, to achieve a consensus from a panel of experts based on multiple responses. The researcher emailed three separate surveys. The first survey gained information from the population six categories. The second and third surveys narrowed the responses using an 80% consensus. A group of researchers consisting of the authors developed the questions

asked in the surveys by using ICFIE's strategic plan. By asking participants to list items the DVD should highlight of six different areas of ICFIE as well as a seventh "other" category to identify areas which might not fit into the

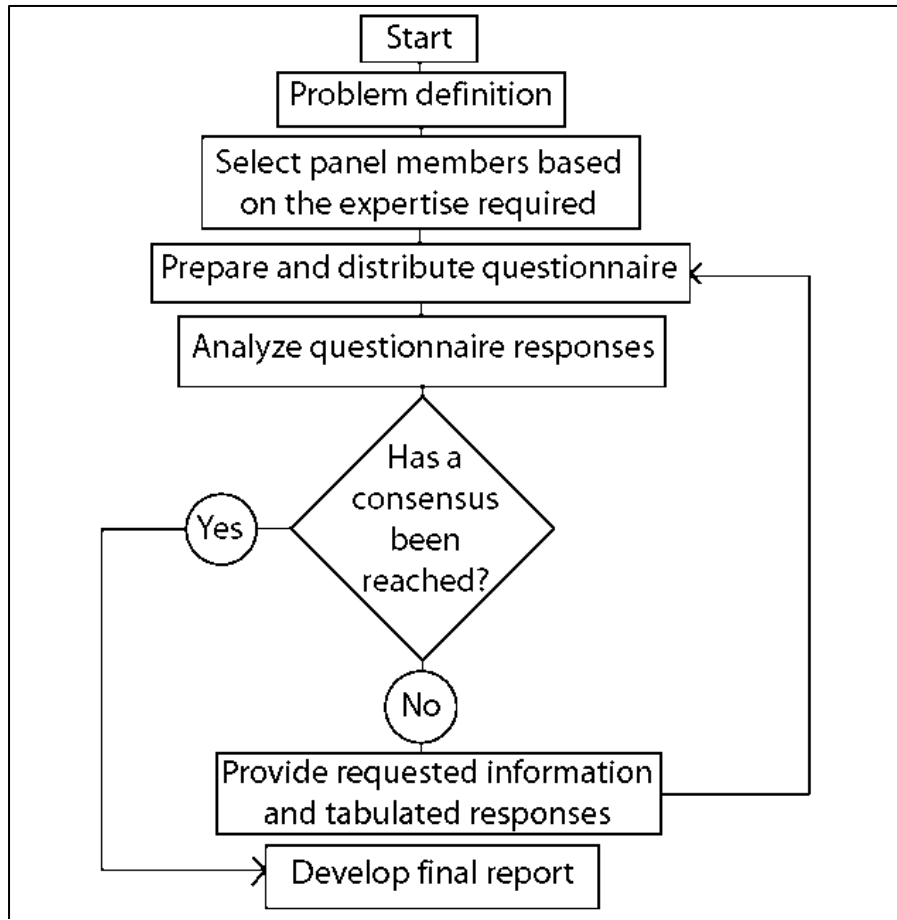


Figure 3: Flowchart for the Delphi method (Joppe, 2005).

The population of this study consisted of 6 of 12 faculty board members, 10 of 13 industry board members, and 8 staff members of ICFIE. The faculty board members either helped create or develop ICFIE or existing members selected them to join. The faculty board members selected the industry board members to serve. The faculty board members also employed the staff members and student assistants. All 24 members of the population share a common tie by serving as ICFIE board members or working for ICFIE. Each person selected demonstrated a sufficient knowledge of ICFIE, its purposes, and its goals. Additionally, no turnover of board members, staff members, or student assistants occurred during the study.

Initial contact was made March 29, 2006, when the researcher sent a participation letter to all 33 potential participants. Six of the 12 faculty board members (3 males and 3 females) and 10 of the 13 industry board members (9 males and 1 female)

agreed to participate. Additionally, ICFIE faculty board members asked their staff members and student assistants to participate. The eight staff members and student assistants joined the study by this method. Thus, 26 of 33 population members agreed to participate, creating the sample. Respondents were not made aware of who else was completing the questionnaires.

The authors administered the three rounds of questionnaires electronically. Each participant was informed his or her answers were confidential. The population was sent an email containing a Web site created by the authors for each round of the Delphi. For Round 1, the Web site consisted of the six areas of ICFIE along with the "other" category with a text box underneath each where respondents listed items within each area they believed should be included on the promotional DVD. For Round 2, items gained in the Round 1 questionnaire were listed in their respective categories, and panelists used a four-point Likert scale to rate if they agreed or disagreed with the importance of placing each item on the DVD. Items which received an 80% consensus, or agreement percentage, of "agree" or "strongly agree" were recommended to be placed on the DVD. Round 3 consisted of items on the Round 2 questionnaire which did not reach 80% consensus. Panelists again used the same four-point Likert scale to rate importance. Items which achieved the consensus in Round 3 were also recommended for inclusion on the DVD.

Because the study utilized online questionnaires, once population members submitted their answers electronically, authors obtained the responses and response percentages. Additionally, the primary author calculated all responses aside from the electronic statistics to verify the accuracy of percentages.

RESULTS

Round 1 of the Delphi yielded 97 items within the seven areas of ICFIE from 19 respondents, creating a response rate of 79.17%. In Round 2, 16 respondents (66.67% response rate) came to a consensus of at least 80% on 65 of the 97 items. Round 3 produced at least an 80% consensus on 4 of 32 items which did not reach consensus in Round 2.

A total of 16 items in the animal and food science area which reached at least an 80% consensus in Round 2 are shown in Table 1. Table 2 contains the nine items in the human sciences area which reached at least an 80% consensus in Round 2 of the Delphi, including three which received 100.00% consensus. The six items in the agricultural education and communications area which had at least an 80% consensus in Round 2 are displayed in Table 3. "Short course and training session capabilities" reached 100.00% agreement. The ICFIE services area had the greatest number of items which reached at least 80% consensus in Round 2. Table 4 contains these 18 items, and within those are four items with 100.00% agreement. Table 5 holds the 12 items in the area of ICFIE accomplishments which made the consensus in Round 2. "Total grant dollars earned and money generated for research by ICFIE" made 100.00% consensus.

The Texas Tech University section contained two items which reached the 80% consensus in Round 2 as shown in Table 6. The other areas or items section in Table 7 also contained two items which made consensus in Round 2. Although no items within the animal and food science area achieved at least an 80% consensus in Round 3, two items in the human science area achieved consensus in the final round. As shown in

Table 8, the items “training and preparation for industry employment” (86.67%, $n = 13$) and “industry connections” (80.00%, $n = 12$) were recommended for inclusion on the promotional DVD.

No items from the agricultural education and communications area achieved at least an 80% consensus in Round 3. However, in the area of ICFIE services, two items received a Round 3 consensus of 80.00% ($n = 12$): “lab and sensory lab services” and “contract research.” The two previous items can be found in Table 9.

Table 1. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence components in the area of animal and food science which received 80% consensus ($n = 16$).

Features	Faculty	Industry	Staff	Agreement %*
Animal and food science				
– Animal and food science building	31.25	43.75	25.00	100.00
– Capability to install pilot plants	31.25	43.75	25.00	100.00
– Food safety research	31.25	43.75	25.00	100.00
– Laboratories and sensory labs	31.25	43.75	25.00	100.00
– Product development and testing capabilities	31.25	43.75	25.00	100.00
– Global ICFIE activities	31.25	37.50	25.00	93.75
– Gordon W. Davis Meat Science Laboratory	25.00	43.75	25.00	93.75
– Nutrition research	25.00	43.75	25.00	93.75
– Research capabilities	31.25	37.50	25.00	93.75
– AFS building tour	25.00	43.75	18.75	87.50
– Animal health research	18.75	43.75	25.00	87.50
– Food safety laboratories	25.00	7.50	25.00	87.50
– Interviews with researchers	31.25	37.50	18.75	87.50
– Researchers’ range of expertise	31.25	37.50	18.75	87.50
– Food Technology building, equipment, and laboratories	31.25	25.00	25.00	81.25
– Proximity to commercial beef feeding and processing	25.00	31.25	25.00	81.25

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 2. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence components in the area of human sciences which received 80% consensus (n = 16).

Features	Faculty	Industry	Staff	Agreement %*
Human sciences				
– Human sciences laboratories	31.25	43.75	25.00	100.00
– Sensory laboratories	31.25	43.75	25.00	100.00
– What differentiates TTU human sciences from other universities' programs	31.25	43.75	25.00	100.00
– Nutrition and health research	25.00	43.75	18.75	87.50
– Published and recognized research, projects, and programs	31.25	37.50	18.75	87.50
– Test/research kitchens	31.25	37.50	18.75	87.50
– Food preparation and marketing	25.00	43.75	12.50	81.25
– Interview human science researchers	31.25	31.25	18.75	81.25
– Media coverage	31.25	31.25	18.75	81.25

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 3. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence components in the area of agricultural education and communications which received 80% consensus (n = 16).

Features	Faculty	Industry	Staff	Agreement %*
Agricultural education and communications				
– Short course and training session capabilities	31.25	43.75	25.00	100.00
– ICFIE Web site	31.25	37.50	25.00	93.75
– Communication connections within the food industry	25.00	37.50	25.00	87.50
– Distance education capabilities and facilities	25.00	31.25	25.00	81.25
– Multimedia services	31.25	25.00	25.00	81.25
– Telecommunications abilities	25.00	37.50	25.00	81.25

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 4. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence (ICFIE) components in the area of ICFIE services which received 80% consensus (n = 16).

Features	Faculty	Industry	Staff	Agreement %*
ICFIE services				
– Ability to use pilot plant as tool for industry partners	31.25	43.75	25.00	100.00
– HACCP training	31.25	43.75	25.00	100.00
– Microbiological analysis	31.25	43.75	25.00	100.00
– Pre-harvest and post-harvest food safety	31.25	43.75	25.00	100.00
– Ability to scientifically research product packing and promotion	31.25	37.50	25.00	93.75
– Food quality and safety research and accomplishments	25.00	43.75	25.00	93.75
– Technology transfer	31.25	43.75	18.75	93.75
– Distance education courses	25.00	37.50	25.00	87.50
– Educational workshops	25.00	37.50	25.00	87.50
– Sensory analysis	31.25	37.50	18.75	87.50
– Services available to the business community	25.00	43.75	18.75	87.50
– Short courses	25.00	3.75	18.75	87.50
– Consumer sensory studies	25.00	43.75	12.50	81.25
– Genomic capabilities	25.00	37.50	18.75	81.25
– New meat processing facility	25.00	43.75	12.50	81.25
– Retail case life and display	31.25	25.00	25.00	81.25
– Show equipment and list general services available	31.25	37.50	12.50	81.25
– Third-party endorsements from industry partners	25.00	37.50	18.75	81.25

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 5. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence (ICFIE) components in the area of ICFIE accomplishments which received 80% consensus (n = 16).

Features	Faculty	Industry	Staff	Agreement %*
ICFIE accomplishments				
– Total grant dollars earned and money generated for research by ICFIE	31.25	43.75	25.00	100.00
– Adoption of research technologies for commercial industries	31.25	37.50	25.00	93.75
– 2 endowed chair positions in meat science	18.75	43.75	25.00	87.50
– Internationally known researchers who validated work through ICFIE	25.00	37.50	25.00	87.50
– Nationally recognized faculty awards	25.00	37.50	25.00	87.50
– Research projects received	25.00	37.50	25.00	87.50
– \$4 million in endowments to support meat science	12.50	43.75	25.00	81.25
– Corporate sponsors	18.75	43.75	18.75	81.25
– Food safety accomplishments	25.00	37.50	18.75	81.25
– Grants	31.25	31.25	18.75	81.25
– Patents	18.75	43.75	18.75	81.25
– Web site and dissemination of information	25.00	31.25	25.00	81.25

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 6. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence components in the area of Texas Tech University which received 80% consensus (n = 16).

Features	Faculty	Industry	Staff	Agreement %*
Texas Tech University				
– Unique opportunity of being near prominent West Texas agricultural industries	31.25	37.50	25.00	93.75
– University contains academic campus, law school, and medical school	25.00	37.50	25.00	87.50

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 7. Agreement levels of Round 2 questionnaire International Center for Food Industry Excellence components in the other areas or items section which received 80% consensus (n = 16).

Features	Faculty	Industry	Staff	Agreement %*
Other areas or items				
– Pathogen processing laboratory	31.25	37.50	25.00	93.75
– International work	25.00	37.50	25.00	87.50

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 8. Agreement levels of Round 3 questionnaire International Center for Food Industry Excellence components in the area of human sciences which received 80% consensus (n = 15).

Features	Faculty	Industry	Staff	Agreement %*
Human sciences				
– Training and preparation for industry employment	20.00	40.00	26.67	86.67
– Industry connections	20.00	40.00	20.00	80.00

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

Table 9. Agreement levels of Round 3 questionnaire International Center for Food Industry Excellence (ICFIE) components in the area of ICFIE services which received 80% consensus (n = 15).

Features	Faculty	Industry	Staff	Agreement %*
ICFIE services				
– Lab and sensory lab services	20.00	40.00	20.00	80.00
– Contract research	20.00	33.33	26.67	80.00

* Percentage of respondents who answered with either 3 (Agree) or 4 (Strongly Agree) combined.

DISCUSSION

The data indicated the panelists desired the DVD to provide an all-around view of ICFIE with basic information, specialties and research concentrations, and items which made ICFIE unique. Complete information about features which should be included in the promotional DVD is found in the previous section. The experts came to a consensus on 69 items which give a well-rounded view of the center and region to potential clientele. They targeted some basic features of ICFIE, showed items unique to the center, and focused on highlighting the biggest strengths of the center and its researchers. The Delphi method proved successful in sorting through a high number of items in a very specialized field.

ICFIE industry board and faculty board members as well as staff responded positively to areas which gave general impressions and very basic information about the

center and its facilities, such as the different types of laboratories. They also reacted well to items which conveyed an individual, unique feel to the center, such as “global ICFIE activities,” “nationally recognized faculty awards,” and “what differentiates TTU human sciences from other universities’ programs.” Additionally, the panelists focused on the center as a whole rather than spotlighting very specific areas by eliminating several items dealing only with the meat science program’s individual success unrelated to ICFIE.

The DVD should focus more on items which received a high agreement percentage than those with a lower agreement percentage. The 14 items which achieved a 100.00% consensus in Round 2 ($n = 16$) from the respondents should be the primary focus of the DVD. Those which received at least an 80% consensus but less than a 100.00% consensus should also be featured on the DVD but receive less attention and time than those with 100.00% agreement.

Some discrepancies arose among items. “Unique opportunity of being near prominent West Texas agricultural industries” and “proximity to commercial beef feeding and processing” achieved consensus while “university close to many large feedlots and packing plants” did not. “Global ICFIE activities will be included in the DVD, and “international travel” will not. These discrepancies should not make a significant difference to the finished DVD in the eyes of potential clients or those involved with ICFIE. Most are overlapping areas, so they will be covered in some form in the DVD. To avoid discrepancies in future research or other Delphi studies, a researcher could utilize a focus group independent of the panel of experts to streamline answers to open-ended questions to develop more uniform items for further Delphi rounds to avoid confusion for respondents.

Gaining consistent participation from panel members was also a challenge. Despite giving consent to participate in the study knowing its time requirements and the use of follow-up emails and phone calls, response rates came to 79.17% in Round 1, 66.67% in Round 2, and 62.50% in Round 3 – all below the desired response rate of 100.00%. To increase response rate in the future for this type of Delphi, researchers may benefit from keeping the time frame of the study quick and concise from beginning to completion, not conducting the questionnaires during the summer to avoid absences from faculty and staff due to research conferences, and maintaining personal contact through all rounds with panelists, especially those reluctant or late to respond.

Overall, the Delphi method was an efficient, effective method for determining the content of a promotional DVD. The use of the Internet surveys with a Delphi was cost-effective for the researcher and time-effective for both the researcher and panel of experts. It allowed the researcher to keep track of respondents and their responses and gave 24-hour access from any Internet-capable location to the questionnaire to the panel members. The researcher recommends others look beyond the use of the Delphi method for curriculum development and utilize the method for developing promotional material for businesses.

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