A Qualitative Evaluation of Customer Service Provided by an Agricultural Center of Excellence

Kathleen Dodge Kelsey
Julie Bond
Oklahoma State University

Abstract

The purpose of this evaluation was to determine customer satisfaction, effectiveness, and the overall impact of technical assistance provided to industry by the personnel of a state agricultural and food products value-added Center of Excellence. Qualitative methodology was employed to satisfy the objectives of this study. Findings indicate that customers were overwhelmingly satisfied with Center services and their expectations were generally met through interactions with Center personnel. The Center is making an economic impact on the value-added products industry. Recommendations were grounded in customer suggestions and included improving communications with customers, improving the public profile of the Center, targeting new customer groups, and improving communications between the Center and industry. Implications for this study suggest that the dichotomy between service (extension) and research activities has yet to be bridged within the Center of Excellence. As an academic unit housed within a College of Agriculture at a major land grant university, Center faculty have difficulty institutionalizing a culture that is sensitive to industry demands for professional communications, timeliness, efficiency, and providing cutting edge service to customers.

Introduction and Theoretical Framework

A regional agricultural and food products value-added Center of Excellence (hereafter referred to as the Center) was established in 1997 with the mission to generate and disseminate technical and business information to stimulate and support the value-added food and agricultural products and processing sector of the economy for the state. This innovative mix of academia and industry sought to combine university research professors and industry professionals to form a unit whose purpose was to create new value-added food products in order to keep raw commodities in the state and increase economic development. The leaders of the land grant university, including the Dean of the Agricultural College, enthusiastically advocated this project. After much legislative debate in the capital city, funding was granted over several years to build the facilities, which are located just 100 feet from the College of Agriculture.

Research faculty were drawn from the College of Agriculture and assigned split appointments with more than half their time devoted to research activities (70% experiment station/30% extension). They were commissioned to serve value-added customers throughout the state by developing value-added products in conjunction with entrepreneurial customers who would, in turn, patent the products. The Center's mission assumed that knowledge and information created and disseminated by its researchers to the value-added food products industry would lead to an increase in health standards, productivity, and job creation throughout the state. It also assumed that such outcomes would stimulate the regional economy and quality of life for citizens. These assumptions could not be proven without systematic and continuous evaluation of Center activities including faculty relationships with customers; hence, a qualitative evaluation was commissioned to determine customer satisfaction with Center services.

For the purposes of this study, customer satisfaction was defined as the extent to which customers' expectations were met or exceeded by the service received from the Center. If a customer perceived that their expectations were met or exceeded, they were considered a satisfied customer. The primary reason for measuring customer satisfaction was to collect information regarding changes that should be made within the organization concerning service and delivery systems. Data collected on customer satisfaction can also be used to assess how well the Center is currently delivering on its understanding of customer needs. By measuring customer satisfaction, the Center makes certain implied, and perhaps explicit, promises about its interest in and responsiveness to serving its customers (Vavra, 1997).

Deming (1982) advocated a holistic approach to quality management and coined the term "Total Quality Management". Managers must examine the entire organizational system when using the Deming philosophy, including suppliers and customers. As the Center was established as a service organization, the Deming paradigm is an appropriate framework for determining overall effectiveness of the organization. This paradigm was used to frame this study and interpret findings since the major tenet of total quality management focuses upon a positive synergistic relationship between the company and the customer (Walton, 1986). Without customers, the Center would not exist. Therefore, the ability to please customers should be considered a top priority for hiring and training faculty (Deming, 1982).

Purpose and Objectives

The purpose of this study was to begin the process of systematic and continuous evaluation of Center activities including faculty relationships with customers. The specific objectives of the study were to evaluate customer satisfaction, effectiveness, and overall impacts of the services delivered through the Center.

Methods

The objectives of the study were accomplished by evaluating various aspects of the customer-faculty relationship from customer entry through completion of the project. Research methodology and instrumentation were developed in conjunction with the information needs of the client. The researchers attempted to understand whether or not customers were satisfied with Center services and what factors contributed to or detracted from their satisfaction. Customers were also queried regarding their progress toward attaining their business goals as a result of Center assistance and changes in the their business practices as a result of intervention from the Center.

The population for the study consisted of companies that had solicited services from the Center from 1997 to 1999. Of the 180 companies that had contacted the Center, 45 were randomly selected to participate in the study. As not all of the companies listed in the customer database had significant interactions with Center faculty, a Center staff member screened out those customers who had only requested information from the Center and had minimal contact with Center faculty. After the initial screening and solicitation for cooperation, 21 customers[1] participated in the study by consenting to a one-hour face-to-face interview. Customer profiles ranged from small family-owned businesses that were just entering the value-added food products market to large corporations employing hundreds of personnel. Due to our confidentiality agreement, no further descriptors of customers will be provided. The nature of each project was so unique that any further demographic data would indicate who participated in the study.

Qualitative data were collected and analyzed based on participant observations of Center activities and in-depth semi-structured interviews with customers (N=21). A structured list of interview questions was developed as a result of an extensive review of the literature surrounding customer satisfaction and in conjunction with Center personnel information needs (see Appendix A for a copy of the interview schedule). The interview schedule was adhered to for all interviews as well as for engaging participants in probing questions that evolved during the interview process (Merriam, 1998). Interviews lasted no longer than one hour each and were audio taped and transcribed for verbatim accuracy. A copy of the printed transcript was sent back to participants for verification of accuracy. One transcript was returned for grammatical corrections.

---

[1] The study was approved by the Oklahoma State University Institutional Review Board on November 1, 1999 for one year and was assigned IRB # AG-00-046. Human subjects were involved in the study from December 1999 to July 2000.

Data analysis consisted of loading the interview text into a data analysis software program called ATLIS.ti (available at www.atlasti.de) where the interviews were coded for themes and patterns. The coding process consisted of highlighting a passage of the text and electronically tagging it to a predetermined code. Eighty-one codes (units of meaning) were developed from the interview text and were isolated and interpreted using the Deming framework. Memoing (writing notes about each code) and matrix methods (cross checking codes for relationships and interactions among themes) allowed the researchers to make claims that were rooted in the data (Miles & Huberman, 1994). To increase overall trustworthiness of the conclusions drawn, findings were presented to the client for confirmation and validation of interpretations (Merriam, 1998). Because the 21 customers were randomly selected from the population, it is appropriate to generalize the results of this study back to the population of Center customers; however, due to their focus on a particular situation, evaluation studies are limited in their ability to generalize beyond this case.

Findings

The findings are reported in conjunction with the research questions that guided this study and are grouped accordingly. All data reported are based on the interviews collected from December 1999 to June 2000. This section will report interpretations made by the researchers from customer statements (claims are in *italics*). In order to protect participant confidentiality pseudonyms have replaced the actual names and the pronoun "he" is used to reflect gender in all responses even though several women were interviewed for this study.

Customer Satisfaction with Center Services

The majority of customers interviewed were overwhelmingly satisfied with Center services. Seventeen out of 21 customers indicated that they were satisfied while four replied that they were not satisfied with Center services. Reasons for satisfaction ranged from customers having a positive relationship with Center faculty to the faculty showing a high level of commitment to their projects. There were also a variety of reasons for customer dissatisfaction, which ranged from receiving inaccurate information to failure to complete the project as promised. The following themes surrounding satisfaction and dissatisfaction emerged during the customer interviews.

Customers experienced positive relationships with Center faculty. Twenty interviewees explained that they had a very positive professional relationship with Center faculty and described faculty as helpful, professional, friendly, personable, and considerate. However, one customer indicated that he would not recommend Center faculty as being professional due to the way his project was managed. This customer was told through a phone conversation that the Center would no longer continue with his project, leaving the customer with no alternatives for assistance.

Center faculty recommended alternative processes for customers. Twelve customers responded that their project coordinator gave them more than one means by which to solve their

project problems. They indicated that this was important as it saved the customer money. Two customers said that they were not given alternatives because they were not appropriate in their particular situation. Regrettably, three customers indicated they were not given alternative solutions to their problems and voiced concern that Center faculty did not have ample knowledge and expertise to facilitate their projects. These customers were displeased with the services they received and indicated that they would not seek further assistance from the Center. They stated that if they could not receive adequate assistance on their initial projects, then how could the Center provide the information on additional projects in similar areas? One customer reported that he was provided inaccurate information pertaining to his project.

Center faculty gave customers alternative sources of information to help solve their problems. Eight of the 21 customers interviewed stated that they were given additional references to contact if further assistance was needed and the Center was not able to provide further advise. Not having to seek out this information on their own was helpful to customers and facilitated a growing network among value-added producers. In contrast to the excellent service given most customers, one customer indicated that the information he was given was more than thirty years old. This person believed that the Center should be able to supply more recent information on the topic. In spite of this faux pas, he did indicate that he was generally satisfied with the Center's services and would return to complete his project, although he hoped to receive more current research findings in the future.

Customers found that the Center director was approachable. Eight customers mentioned contacts with the Center director throughout their projects. In general, they reported that it was very important to be able to have positive contacts and interactions with the Center director, who was described as very approachable. These customers were very satisfied with Center services and attributed contacts with the director as a factor to the success of their projects.

Center faculty showed a high level of commitment to customers' projects and were available to answer customers' questions. Fifteen satisfied customers reported that the Center showed a significant commitment to their projects. Commitment to the project was not directly asked during every interview; however, it emerged 15 times, indicating its importance to customer satisfaction. In contrast, two customers believed that Center faculty viewed their project as unimportant because they were not large corporations or did not have an extensive project for which the Center could get a significant amount of publicity. The Center faculty neglected to return customers' phone calls as well. Two customers indicated that they tried to contact Center faculty regarding their projects and did not receive a proper return contact. These customers were very dissatisfied with the services they had received. Both indicated that they would not return to the Center for additional services partially because of the failure to follow through with communications. Another customer indicated that this type of incident was not typical of the particular faculty member that he dealt with. However, he did express that the lack of contact caused him anxiety regarding the progress of his project.

Customers were able to successfully start a business. Several customers indicated that a major factor in their satisfaction was being able to successfully get their businesses started because of the assistance provided by the Center.

Customer was falsely led to believe that the Center would assist him in developing a value-added product. One customer indicated that a Center representative misled him. He was told that the Center would assist him in developing a new product and was initially given directions from the Center on the procedures to initiate the project. After investing time and money into the project he was told that the project would not be continued. This particular customer was extremely dissatisfied with the Center's services, but was able to successfully complete his project with the assistance from another university. He stated that he would not return for additional assistance.

The Center failed to complete customer's project. Three customers were dissatisfied with the Center's services because the Center failed to provide the information and assistance required to complete their projects.

Effectiveness of Services

This study identified several characteristics of the effectiveness construct. The most important attribute was whether or not the customers' questions were answered and/or their projects were completed. Other attributes included whether or not the customers' expectations were met, if they would return for additional services, effectiveness of communication, timeliness of services, and what the customer perceived as the most helpful aspect of their services.

The Center was effective in answering customers' questions and completing projects. Twelve customers stated that the Center was effective in answering their questions and/or completing their projects. Two customers explained that they are still in the middle of their projects but indicated that the Center had been effective in meeting goals up to the time they were interviewed. Four customers stated that the Center was not effective in completing their projects. The principal reason stated for the Center's lack of effectiveness was that the customers did not receive the necessary information and assistance required to complete their projects. It was stated on more than one occasion that time delays had a role in the project not being completed.

Customers' expectations were met by the Center. Customer expectations were broadly defined, as what the customer perceived would be the result of an interaction. Customers indicated that a direct link existed between satisfaction and expectations being met. Of the 21 interviewees, 16 responded regarding expectations of the Center. The reason for the lack of response from the remaining interviewees was due to the context of the respondent's project or relationship with the Center. Fourteen respondents indicated that the Center had met or exceeded their expectations. Accordingly, seventeen customers interviewed for this study were satisfied with the Center's services.

Most customers would consider returning for additional services from the Center. When customers indicated that they would return to the Center for additional services it is implied that they were satisfied with their overall experience; thus, indicating that the Center was effective in successfully giving customers what they expected. Fifteen of the 21 customers interviewed

specified they would eagerly return to the Center again if they needed additional assistance. However, two customers indicated that they would not return, and one said that he would only return reluctantly. The main reason for dissatisfaction in these specific instances was not receiving requested information.

The Center was effective in communicating with customers. Interviewees indicated that communications between the customer and the Center were effective and added to the positive impression of Center services. Eighteen customers felt that the Center was extremely effective in communication. One indicated that he felt communication was only satisfactory, while the other two did not respond to the question.

Center services were presented in a timely manner. Thirteen customers felt that the Center dealt with projects in a very timely manner. A specific customer stated that time delays caused a hardship for his business. Four customers indicated that the Center did not meet deadlines and failed to complete the customer's project in a reasonable amount of time. Three customers did not respond to the question due to of the length of time between their projects and the interview.

The Center was most helpful in delivering services in 10 categories. Customers cited that the variety of assistance provided by the Center was helpful in making their project a success. Helpful aspects of assistance that were mentioned were 1) constant education, 2) product evaluation, 3) a particular faculty member, 4) facility use for training, 5) guidance through the entire process, 6) information regarding the legalities of marketing a product, 7) the complete process, 8) communication, 9) positive information regarding the Health Department, and 10) linking the project to other aspects of the industry.

Overall Impact of Services

The Center has made an impact on the community. The actual outcome of each project is difficult to measure quantitatively; however, this study sought to understand from the customer's perspective what outcomes resulted from receiving assistance from the Center. Table 1 details actual impacts as a result of the customer's interactions with the Center. Not all customers responded to this question as some projects were still in progress with the Center and some were not directed at the same types of outcomes.

Table 1: *Impact of Center Services on Customer's Business*

Customer	*Impact of Service*
Sam	Four new value-added products were developed.
Ed	Products are now sold in 23 states and distributed in England.
Wade	Increase in business sales due to Center sending him new customers.
Doug	Consumer awareness of Oklahoma products has increased sales.
Kyle	Able to market products throughout many different states. Two new value-added products were developed.
Todd	Gained knowledge of how to evaluate a process within his industry.
Dick	Gained the ability to package, process, and successfully market products worldwide. Employs four people full-time and will ultimately employ a total of 15 people. A new business was successfully started. Nine new value-added products were developed.
Jim	Developed a fresher, more desirable product.
Tim	Has generated approximately one million dollars of business as a result of input from the Center.
Bob	A new business was successfully started and 130 new jobs were created within a three-year projected timeline.

The Center has contributed to professional networks for its customers. Several customers indicated that Center faculty provided them with professional networks that were very important to their company's success and contributed to an increased sphere of resource acquisition and connections within the value-added industry. One customer indicated that as a result of the contacts provided by the Center he was able to decrease his input costs.

The Center has successfully bridged the gap between academia and industry. Customers reported that Center faculty explained methods and materials in terminology that was appropriate and easily understood by the customer. They indicated that appropriate communication was a very important factor in determining the effectiveness of the Center. However, a few customers pointed out that they had some difficulty with receiving information that went beyond their comprehension and suggested that academia (the Center) had difficulty in recognizing timelines, understanding that the most important end product in industry is generating a profit, and that Center faculty lacked an overall understanding of commercial ventures.

Public Awareness of the Center

An important theme that emerged spontaneously during the interviews was the lack of public knowledge of the services provided by the Center. This broad topic has been broken down into subcategories in order to better examine this uncertainty. The following subcategories are

marketing of the Center, general knowledge of the Center and its services, and utilization of the Center.

The Center had not marketed its services effectively to the general public. The majority of customers that responded to this topic stated that the Center did not advertise its services well to the general public. Many indicated that enhanced promotion would help to increase public awareness of the facility and the services offered.

The majority of people within the state did not know about the Center or the services offered. Awareness of the Center in general along with knowledge of the services provided was minimal. The majority of responding customers indicated that the average person did not know about the Center. Of the fifteen interviewees that commented on this issue, thirteen indicated that they did not know that the Center existed before having a project there. Many also indicated that they were not clear about the different services that the Center offers. Interviewees cited a lack of visible promotion activities as the reason for not knowing about the Center or the services that it offers. Customers also suggested that the relative newness of the Center was a limiting factor in public awareness. Customers reported that the following sectors of the economy were knowledgeable of the Center and its services: the grocery community, the food science community, participants involved in research and development in the food-processing domain, and Agriculture alumni of the University.

The Center was not fully utilized by potential customers. Customers stated that they thought the main reason people didn't use the Center was because they are simply unaware of it.

Recommendations

Based on the findings from this evaluation, it is recommended that the Center continue the following practices, which will contribute to and foster excellent customer satisfaction:

1. Develop positive interpersonal relationships with customers.
2. Provide customers with a variety of means to solve their project problems that incorporate both high and low cost alternatives.
3. Provide customers with alternative information sources for answering questions when the Center is unable to satisfy customer requests.
4. Form positive, helpful relationships between the customer and the Center director.
5. Maintain high levels of commitment to customer projects.
6. Meet and exceed customers' expectations.
7. Provide satisfying services so customers will return for additional services.
8. Effectively communicate with customers orally and in writing.
9. Aid customers in the development of new businesses and products to improve the state's economy.
10. Provide customers with access to professional networks to ameliorate their businesses practices.

11. Bridge the gap between academia and business as indicated as a part of the Center's purpose statement.

Categories for improvement fall under marketing its services, professional communication, and quality of assistance provided. Based on the findings of this study it is recommended that the Center adopt the following practices in order to better serve customers:

1. The Center should focus on appropriate and professional communications to avoid misunderstandings with customers.
2. The Center should strive to provide customers with the highest quality and most recent information and technology available to complete their projects.
3. The Center should treat all customers equally regardless of size or scope of the project.
4. The Center should seek out knowledge and expertise to assist customers with requested service.
5. The Center should strengthen its public relations profile to enhance its ability to serve new customers, especially those facets of the value-added products industry that are currently underserved.
6. A systematic flow of information should be developed between academia and industry to increase opportunities for communication.

Conclusions

Customer satisfaction occurs when the outcome of a service delivery meets or exceeds customer expectations (Brown & Swartz, 1989). Clearly, the Center has successfully satisfied the majority of its customers by meeting their expectations for service. The Center has also effectively delivered its services to customers as the majority of customers noted that their projects were successfully completed. Other important factors that contributed to the Center's effectiveness were timeliness and communication skills, along with the variety of specific services that were offered to customers.

The Center has made an important impact on the value-added products industry in this state. One of the explicit goals of the Center was to help develop successful value-added enterprises that would retain raw commodities and jobs within the state. Through the findings of this evaluation, it is evident that the Center has successfully accomplished its mission in that new businesses have been generated and jobs have been created. However, quantitatively determining the impact of the Center was beyond the scope of this study and should be determined by further cost-benefit analysis studies.

Discussion and Implications

The Center represents an innovative mix of academic and industry cultures, which holds special challenges when serving nonacademic customers. The Center is a publicly funded institution that is operated by research professors. Its mission is to serve the value-added food

and agricultural products industry within the state. Given this dichotomous role, the Center is doing surprisingly well in accomplishing its customer-driven mission.

However, there is much room for improvement. One area for consideration is the current reward structure for Center faculty. Research professors are expected to garner one to three refereed publications per year in order to retain their status as researchers (Kelsey, Maringer, & Pense, 2001). This creates an environment with extreme pressure to seek opportunities that will lead to publication, which in turn undermines service activities that result in few tangible (and tenure-related) products. With these pressures in mind, faculty are more likely to focus on projects that have a greater potential for resulting in prospects for publication. It should be noted that many of the customers who were overwhelmingly satisfied with Center services had high profile projects that resulted in large impacts and subsequent publishing opportunities for the research professors connected to the project. Some customers who were dissatisfied had projects that were commonplace or small in scope. These customers reported that they felt discounted by Center faculty because their projects were not sensational.

The current publish or perish paradigm that exists in research universities today is an inappropriate fit with the Center's mission. The highest levels of customer satisfaction are unachievable under conditions that encourage and reward research over service. We know that all of the Center's customers are not being treated equally. What we do not know is the exact cause of this disparity. Is it due to the perceived desirability of customer projects to the research professor based on the current reward structure? If so, can the Center accomplish its mission given its ties to academia?

In the final analysis, the customer must come first in any service-oriented business, and by commissioning this evaluation, the Center has demonstrated a sincere commitment to customer satisfaction, a necessary first step to institutional reflection. However, in order for the Center to become completely customer driven, radical change must occur within the institutional structure and culture. As evaluators, we leave this task to the decision makers, who will ultimately be held accountable to the citizens of this state for the outcomes of the Center.

References

Brown, S. W. & Swartz, T. A. (1989). A gap analysis of professional service quality. <u>Journal of Marketing, 53,</u> 92-98.

Deming, W. E. (1982). <u>Out of the crisis.</u> Cambridge, MA: Massachusetts Institute of Technology.

Kelsey, K. D., Maringer, S. C., & Pense, S. L. (2001). Serving stakeholders at a land grant university: Forestry professors present their view ten years after Boyer. <u>Journal of Southern Agricultural Education Research (50)</u>2.

Merriam, S. B., (1998). <u>Qualitative research and case study applications in education</u> (Rev. ed.). San Francisco: Jossey-Bass Inc.

Miles, M. B., & Huberman, A. M. (1994). <u>Qualitative data analysis: An expanded sourcebook.</u> (2 ed.). London: Sage Publications, Inc.

Vavra, T. G. (1997). <u>Improving your measure of customer satisfaction: A guide to creating, conducting, analyzing, and reporting customer satisfaction measurement programs.</u> Milwaukee, WI: American Society for Quality.

Walton, M. (1986). <u>The Deming management method.</u> New York: Putnam Publishing Group.

Appendix A

Interview Schedule

Customer Satisfaction

- How would you define customer satisfaction?
- Were you satisfied with the services provided by the Center? Why or why not?
- What were some of the positive incidents?
- What happened that you didn't like?
- What were your expectations of the Center's services?
- Were these expectations met?
- Would you consider returning to the Center for additional services? If so, what types of services would you request?
- What are other possible resources you could use in place of the services provided to you by the Center?
- If you were not satisfied with the services that you received would you state your complaints to faculty members? Would you feel restrained in stating these complaints?
- Are there any possible situations that would increase your satisfaction with the Center?
- Was cost a factor in choosing to use the Center's services or not?
- Do you feel that your interactions with the Center have caused you to become more customer focused in your own business interactions? Why or why not?

Effectiveness

- Was the advice given by the Center effective in solving your problems or completing your project? If so, could this be equated to a specific result or improvement in your business?
- What was the most helpful aspect of services you received from the Center?
- Did you receive information that was not helpful?
- How can/did the Center assist you in regard to new product development?

Project management

- Do you feel that your project was managed effectively in terms of timeliness, professionalism, and organization?
- Do you feel that the Center saw your project/problem as significant?
- Did the Center give you alternative ways to solve your problem if the cost of the first recommendation was too expensive?

Communication Skills

- Do you feel that the Center was effective in communicating with you in terms of written reports, telephone calls, letters and any other possible means of interaction?
- What type of relationship do you feel that you have/had with the Center's faculty?
- Were lines of communication left open for any questions that may come about in the future?
- Has there been any follow up? At what intervals? With any regularity?

Responsiveness to Changing Needs

- How did the Center react to changes in your project?
- Were they quick to respond to these changing needs?
- How do you feel that they handled these problems?
- Do you have any other suggestions for the Center to help them improve customer satisfaction, effectiveness, communication, responsiveness, and quality?