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Reference service effectiveness

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Service organizations are becoming more important in our daily lives as the United States changes from manufacturing to a more service-oriented society. In the last two decades, scholars in business, psychology, and sociology have begun to explore the differences between products in manufacturing and service organizations. This paper briefly reviews significant theory and research findings concerning service organizations from these disciplines, develops a model of the library reference process (see figure 1), and summarizes the results of a partial test of the model in five academic libraries in Northern California. The research results briefly summarized in this paper and a more extensive discussion of the major factors involved in the reference process have been published in The Role of the Academic Reference Librarian. [1]

SERVICE ORGANIZATIONS

Libraries are a particular type of service organization and librarians can learn much about the effectiveness of library public service by applying theory borrowed from other disciplines also engaged in studying service organizations. Scholars from business have concluded that one of the most unique features that distinguishes service from manufacturing is the direct role of the client in the production of the organizational product. Service organizations link clients who are or wish to be interdependent. [2] Banks link depositors and borrowers. Insurance firms link those who would pool common risks. The post office provides a possible link with every member of society. Employees in direct service roles, such as teachers, salespersons, and case workers can only be understood in relationship to pupils, customers, and client roles. [3]

Because of direct client involvement, daily production processes in services organizations are more subject to uncertainty than in manufacturing organizations. Service organizations are not able to produce the product in an invironmental highly controlled by the orgaization. Instead, the service product is normally produced through client and service provider inter-action. In manufacturing organizations, the crucial production problem is coordination of variables under control, but in service organizations, the crucial production problem is adjustments to constraints and contingencies not controlled by the organizations. [4]

To a service organization, clients are problems in the sense that they are sources of variety; they get in the way of an organization trying to produce uniformity, certainty, and order. [5] When clients ahve limited roles in producing products, task uncertainty can be reduced because task activities can be preplanned. [6] Fast food restaurants, such as McDonald's, are an example of service organizations with many preplanned tasks. Extensive client involvement in the production of service creates a higher level of uncertainly. Organizations employing highly skilled professionals, such as law firms, have relatively few standardized tasks and provide more products designed especially for the individual client.

Service operations do attempt to control their daily production activities by reducing uncertainty through restricting service offerings to certain types of clients, training clients in organizational routines,and limiting the range of services provided. Lipsky observes that to deliver service is to embrace a contradition. [7] On the one hand, service is delivered person to person, suggesting a model of human interaction, caring and responsibility. But delivery of service in bureaucratic organizations also suggests a model of detachment and equal treatment under conditions of resource limitations and contraints.

A distinctive characteristic of service bureaucracies is that demand for services increases to match supply. [8] If additional resources are made available, demand increases to consume them. Because staff in service bureacracies

always work with in-adequate resources, they are under continuous pressure to meet public objectives of efficiency and effectiveness by providing rapid service to large numbers of clients. In these circumstances, staff tend to rely upon bureaucratic procedures that provide standard service to everyone and avoid customizing service to meet individual needs. For example, railroad ticketing agents must deal with conflicts between organizational norms of efficiency and societal norms of social interchange. [9]

Hasenfeld observed that the lack of sufficient resources to meet client needs is probably the chief factor generating hostility between staff and clients. [10] Social exchange theory suggests that users and librarians will attempt to obtain needed resources from each other in a manner that optimizes benefits and minimizes costs for each of the parties. [11] In the library service situation, one of the most important resources for both staff and clients is time.

SERVICE PRODUCTS

Despite attempts to control daily production of services, total interactions among human and situational influences contribute to wide service product variation. [12] The production of service products in an environment dominated by high uncertainty limits organizational and client control of product quality. Rafaeli suggests that the constant struggle of service providers for control with customers is one of the constraints that introduces tension into service encounters. [13]

Wide variation in service products occurs as a result of changes in demand level, involvement of new of different service providers of clients in the system, and changing levels of client cooperation. Evidence from widely varying services indicate that service providers do not deliver service in a uniform manner, but make judgments about worthiness of the person and appropriateness of the demands and take these judgements into account when performing the service. [14] Naegele and Stolar note that all clients are not considered of equal interest to librarians. Professionally, librarians treat people equally, but in fact, they also distinguish in terms of importance of clients' requests, or as is less likely to be admitted freely, by librarians' view of the clients themselves. [15] Thus, clients associate service products with uncertainty and risk.

Another important difference between service and manufacturing organizations is the nature of the product. Manufacturing products are tangible physical objects whereas service products tend to be intangible. [16] Intangible service products provide clients with few objective reference points to use in evaluating services consumed.

A distinctive feature of human encounters in service orgnaizations is the purposive, task-oriented nature of the interaction. In service organizations, the combination of intangible products and high-task uncertainty may make evaluation of effectiveness particularly difficult. Task uncertainty occurs when there is incomplete knowledge about how to produce a desired outcome. High-task uncertainty is common in the production processes of certain service organizations that provide little in the way of measurable, tangible products as part of the service provided. Butler found that the greater the task undertainty in services, the higher the task difficulty; and, the greater the task uncertainty, the less specific the service product. [17] In libraries, Benham's research results suggest that expertise is an important factor in obtaining accurate answers. [18] Achieving successful solutions to faulty information questions appears to be related to knowledge of subject matter of questions and reference materials. [19]

Research demonstrates that feedback or knowledge of results reduces task uncertainty and improves performance. [20] Thus mutual feedback between client and service provider should reduce uncertainty and result in greater service effectivenss. Feedback involves information about how behaviors of people are evaluated by others. [21] Researchers have found that people in organizations pay attention to performance feedback from three different sources: clients or co-workers, organizational or supervisory communications, and the process of performing the task itself.[22] When librarians solicited feedback from users by asking them if their question was answered, correct answers were provided 76 percent of the time. Librarians who did not solicit feedback only supplied correct answers 52 percent of the time. [23]

SERVICE EFFECTIVENESS

Reference effectivenss has been measured in many different ways, through user satisfaction, accuracy of answers, and stated willingness of the user to return to the librarian. [24] All of these are valid measures of effectiveness and

provide information on the success of reference services. Effectiveness can be defined as how well an organization is doing relative to some set of standards.[25] Therefore, when people discuss reference effectivenss, they must determine whose set of standards they wish to use in evaluating reference service.

Different constituencies, such as government, customer, suppliers, creditors, and owners, have low levels of agreement on organizational effectiveness ratings. [26] Organizational effectiveness is inherently subjective and based on personal values and preferences of individuals. [27] Oliver suggests that client evaluation of product performance only occurs in relationship to a standard that is based on the product inself, including prior experience; the context of the service process, including communication from the service providers; and individual client characteristics, including the ability to be persuaded and perceptual distortion. [28]

Clients and service providers participating in a service encounter can be expected to evaluate service effectiveness somewaht differently because of differences in expectations and perceptions. Organizational boundaries may be related to differing client and service-provider perceptions of service processes and outcomes. Organizational boundaries function as barriers that should be expected to create differences in perceptions between clients and service proviers at the service boundaries. The position people occupy in organizational space will determine their inter-pretation of incoming information and their search for additional information. All members of an organizationl occupy a common organizational space in contrast to those who are not members. [29] Communicating across organizational boundaries requires learning the local coding schemes and languages as well as specialized conceptual frameworks that exist on both sides of the boundary. [30]

ROLES OF CLIENTS AND

SERVICE PROVIDERS

Because the production of service requires contributions from both clients and service providers, clients are sometimes described as occupying a partial membership role in organizations. [31] Studies of boundary spanning activities of service proviers and their interactions with clients have been limited, but suggest that the partial membership role of the client in the organization does promote common assessments of service effectiveness. In a study regarding employee and customer perceptions of bank service, Schneider, Parkington, and Buxton found that employee descriptions of branch practices and procedures were related to customer perceptions of service: when branch employees perceived a stronger service orientation in their branch, the customers of these branches reported not only that they received generally superior service but that specific facets of the service were handled in a superior manner. Service and human resource practices of organizations apparently provide customers with visible cues that they use to evaluate quality. Because services themselves yield little tangible evidence useful as a basis for evaluation, it is how they are delivered and the context in which they are delivered that is important. [32]

The receptivity of users to the technical skills of service providers may depend upon the employee's interpersonal attitudes and behaviors toward users. [33] Communication of an attitude of caring on the part of a reference librarian is significantly related to user satisfaction with the reference interview. [34] Librarians are rated as more competent by both librarians and users when they display warmth. [35] Observers are far more willing to return to the same librarian when the staff members has weak interviewing skills or gives inaccurate answers than they are when the librarian makes them feel uncomfortable, shows no interest in the question, or appears judgmental about the inquiry. [36] A number of people have also suggested that satisfaction and motivation of employees in service organizations are related to performance effectiveness. [37]

A lack of clarity regarding appropraite roles to be played by both parties involved in service transactions is likely to reduce performance effectiveness. Client socialization, or understanding of organizational norms, values and appropriate roles, may be influential in determining service products. Problems in completing the task arise when the service proviers's definition of duties differs from the user's, or when the user and service provier have differing conceptions of the user's appropriate role. [38] Clients may come to define their situations using the dimensions and criteria constructed by the organization and come to believe in the value and consequences of the service. Gingras and McLean found that the designers an information system trained users in designers' methods, aims, and terms; their results suggest that the success of an information system is dependent upon the users of the system understanding the information system and techniqyes from the perspectives of the designers. [39]

Encounters in service organizations cannot be understoods without a full view of both participants and an emphasis on the interaction between them. Management creates the organizational environment and sets the stage for employee's performance, but customers form the production environment for these employees. Routine service interactions are affected most by an interplay between service employees and their customers. [40]

Citizen participation in service delivery is often critical to program effectiveness. Clients exert strong influence through their participation in public programs. Clients continually shape organizational activities through the nature of their requests for assistance, by cooperating or not cooperating with organizational activities, and by negotiating with individual service providers to shape their activities. [41]

In services such as education, where the transformation of the client is the primary objective, the service provider can provide guidance and advice but cannot produce the desired transformation alone. The client is a vital "coproducer" of any personal transformation that occurs. Service providers and clients interact to establish a common understanding of the client's problem and what each can do to help deal with it. This mutual adjustment process does not involve the interaction of equals because the service provider almost always has greater resources and the advantage of greater skill or special knowledge. [42h Mobilizing the customer as a force of production may provide unrecognized opportunities for enchanced productivity. [43] The notion of appropriate levels of service, instructing users to find their own answers vs. providing the answers, has been debated in the literature. [44] Reference librarians who were interviewed also observed that workload pressures often create situations in which service is not as thorough as it should be.

These findings argue for the study of reference effectiveness with the service encounter as the unit of analysis and assessing the service outcome as a joint product of both the client and service provider. In the case of service outcomes requiring fact-to-face interactions, the quality of the service product is the outcome of a complex interaction manufactured by both parties. [45] Both client and service provider evaluations are crucial in understanding the **effectiveness** of **reference service** involving face-to-face interactions.

METHODOLOGY

For this exploratory research, organizations in Northern California were contacted that were judged to be representative of libraries in academic environments. five organizations agreed to participate: one major doctoral institution, three comprehensive institutions (large, medium and small in size) and one two-year institution.

Within each of the five libraries, all librarians who provided reference desk service were asked to participate in the study. A total of 62 librarians participated in the study. Numbers of reference librarians ranged from five in the smallest library to 22 in the largest library. Users who asked questions during the time of the study in each library were asked to participate in the study when their query was identified as one to be sampled.

Reference queries from users of libraries were sampled randomly by librarians. Each librarian kept a separate tally of the number of reference questions received. For every fifth reference question, after the question had been answered, the reference librarian asked the user to complete a questionnaire. If the user agreed to complete the survey, the reference librarian gave the user a questionnaire and made quick notes on the first page of the matching reference librarian questionnaire. The remainder of the questionnaire was designed to be completed in five to ten minutes when off the reference deck. Reference librarians were strongly encouraged to complete the form on the same day so that recall would be as accurate as possible. Questionnaires were coded so that librarian and user questionnaires could be matched for each individual transaction. To ensure librarian confidentiality, each reference, librarian was asked to develop a secret code. Librarians then placed their same individual secret code on each reference transaction questionnaire they completed.

Users were offered an incentive to complete and return the questionnaries. Two institutions elected to provide a copy card to each user returning the questionnaire; one institution, a lottery ticket; and two institutions, a pen. Response rates were good for this type of survey. Of the total of 397 reference transactions sampled, 257 matched transactions (64.7 percent response rate) were returned for analysis. Response rates for each of the five libraries are provided in table 1.

Data were collected on the following variables:

(1) the three dependent variables: librarian perceptions of service value, user perceptions of service value, and the user self-report of success or failure in locating needed information.

(2) the dependent variable: client socialization, task-related knowledge, service orientation, librarian job satisfaction and motivation, time constrainst, feedback, and type of assistance. The dependent variables were selected because findings in previous studies, theory, and interviews with experienced reference librarians indicated that these variables were likely to influence perceptions of service outcomes.

Measures for each variable were developed after an extensive review of available scales and interviews with experienced reference librarians. To determine the number of concepts underlying each set of measures, principal components factor analysis with varimax rotation was employed. Cronbach's alpha (a), the most common of reliability tests for internal consistency, was calculated for all scales. A pilot test of the questionnaires was also conducted at San Francisco State University. A brief summary of each variable and the scale are provided in the appendix.

RESULTS

Three separate stepwise regression analyses were performed in order to examine the relationships between each of the three dependent variables and the set of independent variables. Stepwise selection is one of the most common methods of regression. At each step, the variable that adds the most to explaining the variance of the dependent variable is entered. This process continued until no more useful information (in terms of explaining additional variance in the dependent variable) can be obtained from further addition of variables. Thus, the significant variables are those that in combination explain the greatest variation for each of the service outcomes. [46]

Classes of variables related to feedback, service orientation, time constrainst and tass uncertainty have the most significant effects on service outcomes. Distinct but ovelapping combinations of independent variables in these various classes explain more varience in librarian and user judgments of service value than in user sussess in locating needed materials. Tables 2 through 4 provide detailed information on the results of each of the three separate stepwise regression equations.

The service outcome, librarian judgments of service value, is significantly explained by librarian self-reports of feedback quality, judgments of client participation, librarian service orientation measures concerning the importance of going beyond the library in fulfilling the clinet's information need, the librarian rating of the importance of showing personal interest in the user, librarian reports of adequate time to answer the question, and librarian task-related knowledge. The only user measure that significantly explains variation in librarian service values in the regressions analysis is direct client feedback informing the librarian if the question has been answered.

The service outcome, user judgments of service value, is significantly explained by user reports of feedback, the user informing the librarian if the question was answered, user judgments of librarian service orientation, user reports of time available to spend with librarians, and user reports of receiving a direct answer to the question. The only librarian response significantly explaining user service value in the regression equation was the librarian rating of the importance of alternative solutions.

The final service outcome--user success--is significantly explained by user feedback informing the librarian if the question was answered, user reports of time spent with the librarian, user time available, and user self reports of task-related knowledge. Librarian responses significantly explaining user success in the regressin equation were librarian judgments of the quality of feedback, librarian ratings of the importance of alternative solutions, and librarian task-related knowledge.

The questionnaires for both users and librarians also included qualitative data on the content of questions asked and answers supplied as well as encouraging comments. Therefore, the 17 cases of total failure where users reported locating nothing were analyzed concerning reasons for failure. The results of the failure analysis are provided in table 5. On the 17 cases, 6 failures (35.3 percent) appeared to be related to variables included in the study. However,

11 of the information failures (64.7 percent) are due to library system failures that are beyond the immediate control of the individual user and librarian participating in the reference encounter. System failures are related to library circulation and collection mangement programs and bibliographic access limitations.

DISCUSSION

In reviewing the results of this study, with few exceptions, variables most closely associated with librarian service value perceptions are variables from librarian responses. Also, variables most closely associated with user service value responses are variables from user responses. This is not too surprising with the average duration of reference encounters three to five minutes in length. This finding supports the importance of employing multiple measures from different sources when evaluating service effectiveness.

Variables that influence service outcomes canbe divided into three broad classifications: (1) those concerned with technical knowledge of the job (task uncertainty or task-related knowledge); (2) those concerned with social skills and abilities (service orientation, feedback); and (3) those involved with system constraints (time constraints, collection and circulation management, bibliographic access systems).

Task-related knowledge of service providers is clearly important in determining service effectiveness because it is positively associated with all three service outcomes. On the other hand, task-related knowledge of clients may not always be important in determining service effectiveness when an intermediary is involved in the provision of service.

Interpersonal skills appear very important in determining service effectiveness. User reports of informing the librarian if the question has been answered is the only variable in the regression analyses which significantly explained variation in all three service outcomes. Analysis of failures also supports the importance of feedback in improving service effectiveness.

Results related to service orientation suggest that in the reference setting, customer and staff perspectives are very different. Librarian enthusiastic service orientation as reported by users is strongly associated with the two user service outcome measures, but not significantly associated with the librarian outcome measure.

Constraints related to organizational resources and customer resources are quite influential in determining service effectiveness. Results of this study indicate that reference desk users expect to be provided with quick, concise information. The significant negative relationships between librarian attitudes toward the importance of advising attitudes toward the importance of advising users of all feasible alternative solutions and user service value and user success, indicate that librarians with this philosophy do not produce service of most value to users, nor does this philosphy appear to facilitate user success in locating needed information. Service providers need to structure service carefully so that clients as well as staff can make most effective use of available time.

Generally, shorter lengths of time were significantly associated with more valued service outcomes. This finding appears to contradict common knowledge in the profession that service would be better and more extensive if only there were less demand for the service. The effects of service demand upon reference encounters may not influence individual interactions. Rather the effect of service demand upon encounters may be global effects upon all interactions. One user commented, "I could easily keep the librarians busy all day! Alas, there are only two librarians here and they are in constant demand."

The systematic effects of working continuously in a situation where workflow uncertainty is always high for both service providers and clients may condition both librarians and users to provide and expect short interaction times. The global effects of service demand and the conditions of workflow uncertainty may be perceived as a consistent and stable effect under which reference desk service will always operate.

These study results have several important implications for reference practice. To the extent possible, service desks and referral systems need to be structured to enhance the value of each librarian's expertise. A method already being explored in some libraries is more exetnsive use of reference appointments with librarian subject specialists for responding to complex or highly technical questions. In situations where two or more librarians are staffing the desk

together an important scheduling consideration should be providing librarians who have expertise in different disciplines. More formal referral systems should be implemented as part of reference desk service. Reference desk staffs should develop and update an inhouse database of expert sources for use in referral.

More intensive training and development of staff in eliciting feedback from users would definitely result in improved reference service. Librarians should consider how well and how often they ask users whether their questions were answered and whether users found what they wanted. Librarians should also contemplate how carefully they listen to the answers. Librarian courtesy, interest, and helpfulness are crucial in providing successful reference service. Libraries must select and retain staff who have these service orientation toward users.

Reference librarians should also very carefully evaluate costs of service in terms of user time and effort. Librarians need to structure the service so that users as well as librarians can make the most effective use of their available time.

Finally, reference librarians cannot provide quality service unless they play an active role in improving library collection management, circulation, and bibliographic access systems. Effective reference service must be supported by materials that are easily obtained by users. The expert advice of the reference librarian is of little value when the documents containing the information cannot be located.

CONCLUSION

In considering the implications of these results, it is important to keep in mind the following limitations of the study. The study is a field study rather than a laboratory study and consequently traders off control over variables for study of service outcomes in a real-life situation.

With the exception of the librarian motivation and job satisfaction scales, and the scales measuring service outcomes, all other scales have been developed especially for this study. Therefore these scales need further testing and improvement to ensure further testing and improvement to collection efforts are limited to five academic libraries in Northern California; therefore, conclusions drawn from this exploratory research need to be viewed as tentative.

Service encounters are not well understood. This study suggests that feedback, service orientation, task-related knowledge of providers, and time constraints are important variables to study in service settings. The study also confirms the importance of evaluating service encounters from both provider and client perspectives. More qualitative and quantitative data on these variables collected in all types of libraries will enrich our understanding of **reference service effectiveness**.

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