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The Power of Qualitative Methods: Understanding the Puzzle of the Facility Programming Market

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Abstract

The purpose of this paper is to make a case for the power of qualitative methodology as well as to demonstrate the contributions of qualitative methods in applied research and practice. As analytical material and as an illustration, we use a project where qualitative research methods produce more trustworthy and credible information about a phenomenon than did quantitative research methods. In the process of studying the market for research-based facility programming, we reflected on the heuristic potential and productivity of the methods that have been used traditionally. We made a comparative analysis of the survey and qualitative research designs when used for the study of situations that previously had not been researched or have rarely been researched. This study demonstrates a way of reasoning, grappling with the dilemma of "qualitative versus quantitative," and reveals the decision making process, as well as some unexpected findings, in evaluating facility programming research. This paper contributes to promoting qualitative methodology in professional practice, in applied projects, and in industries that rely heavily on quantitative research designs.

Keywords: Qualitative methodology, Qualitative VS quantitative, Empowering qualitative methodology

1. Introduction

The field of qualitative research methods is already well established **(**Denzin & Lincoln, 2017**).** There are many conferences devoted to these methodologies in particular as well as others that involve qualitative methods due to the nature of their disciplinary approaches (Denzin & Lincoln, 2017). In the latter case, we consider such conferences organized by anthropological, ethnographic, and culture studies associations. Qualitative methods are routinely taught in a number of colleges, like Arts and Sciences, Education, and Nursing, to name just the largest of them (Denzin & Lincoln, 2017).

However, there are still problems and objections about the application of qualitative approaches in many areas (Denzin & Giardina, 2006, 2008, 2015). A number of agencies and foundations deny funding for projects with qualitative method research designs. Clients also have doubts about the use of qualitative methods and the subsequent data and findings. Many client decision-makers are schooled in the quantitative tradition. Many industries and fields still only or predominantly endorse quantitative studies. They have a culture that admires numbers, quantities, and conclusions based on surveys and experiments (Denzin & Giardina, 2006, 2008, 2015).

This situation presents a problem for qualitative researchers and in particular, those who work outside academia, in various industries, or with industry clients. These researchers face "double jeopardy:" once when they have to defend their project in principle, and a second time when they have to defend their qualitative methodology in practice. The situation becomes even more challenging when projects with qualitative research designs have to compete at Call for Proposals conceived with a bias in favor of quantitative research designs (Denzin & Giardina, 2006, 2008). Many project reviewers are influenced by their own quantitative backgrounds, pressure by other quantitative researchers, and the natural unwillingness to take risks and approve qualitative projects (St.Pierre, 2017).

In this context, our paper intends to fulfill several complimentary purposes. First, we would like to make a case for the power of qualitative methodology. Second, we would like to demonstrate the contributions of qualitative methods in applied research and practice. Third, this study will demonstrate a way of reasoning, a way of grappling with the dilemma of "qualitative versus quantitative," and will reveal such a decision making process and unexpected findings. And fourth, we will highlight the guiding ideas and the methodological reasoning that drives such findings. In light of such objectives, this paper is important for promulgating qualitative methodology in professional practice, in applied projects, and in industries that rely heavily on quantitative research designs.

The ideas for this paper emerged from a dramatic and puzzling situation about the market of research-based facility programming services. The study itself was challenging, but even more challenging were the process of conceptualizing the study, the research design, and most of all, the politics of negotiating the methodology. There were several parties involved at one time or another, providing ideas, advice, and feedback. This complex social networking during the research process led to a number of methodological pressures, doubts, hesitations, and changes of course. Not all parties were happy at any given moment, and there

were always contradicting, if not conflicting, suggestions and ideas. Such a process of deliberation is normal for academia and research; however, the option to consider qualitative methods as the main research design made the situation more complex and challenging than usual.

Before we continue, we will provide a concise description of a major phenomenon that we study and that we mention very often in this paper—facility programming (Cherry, 1999; Duerk, 1993; Hershberger, 1999; Kumlin, 1995; Pena & Parshall, 2001; Preiser, 1985, 1986, 1993; Sanoff, 1989). Facility programming precedes architectural design and provides information for design decision making. Programming is concerned with information about building users, their culture, activities, and needs (Duerk, 1993; Farbstein, 1986; Pena & Parshall, 2001). This information is further formatted as design requirements that designers have to consider and implement in their projects. There are several approaches to programming, ranging from personal experience, to using design guidebooks, to incorporating published research, and at the other end of the spectrum, engaging in profound project-specific research (Sanoff, 1992).

Programming that relies heavily on published research and project-specific research is referred to by us as 'advanced' or 'research-based' programming. In order to claim advanced or research-based programming, field research should be the most substantial component of the programming project. Before starting the study of the programming market, we had expected that advanced or research-based programming would be preferred over approaches based on personal experience, replication of building prototypes, or design guidebooks.

This is a methodological paper that presents the reflections and methodological deliberations regarding a field research project on the market for research-based facility programming services. At certain places of the paper, we will talk about this field research project as an illustration of our argument that in particular situations qualitative methods produce more trustworthy and credible information than the more commonly used quantitative methodologies. The present methodological project is designed as a two-layer entity. The methodological layer includes reflection on the contributions of qualitative methodology for the study of professional services markets. The field research layer provides information about the market of facility programming and at the same time serves as a foundation for methodological discourse. This dualistic nature affects the organization of the paper and introduces an unorthodox approach to the presentation of the information.

The problem situation that we have envisaged in the field research project on facility programming involves contradictions, conflicting information, and a puzzling deviation from our professional predictions. Here are some of the contradictions. Research-based programming brings a lot of value to the project because it much better defines the quality of the final project. Although such programming involves higher initial investment, the cost is still a minor fraction of the total construction costs. Clients should be aware of this and try to get better value for their construction budget, not just a lower price for the programming documents. Furthermore, there should be many firms specializing in advanced programming services, and there should be a demand for educational courses and programming majors.

However, this has not happened yet.

What has happened is that there is a lot of talk about programming among architects. There is a movement for evidence-based design, and a general appreciation for the study of building users. Yet, there is only very limited demand for research-based programming. Our interest in the market for advanced programming services has spurred a project with the objectives to obtain a clearer marketing picture, beyond our casual observations, explorations, and data collection, employing more rigorous research design and information that is more credible.

The literature on the market of programming services is limited to a couple of monographs (White, 1982, 1991) and occasional paragraphs in book chapters and journal articles (Preiser, 1985, 1986, 1993). In reality, the purpose of the monograph differs from our interests in the programming market in the U.S.A. and the data collection is from the United Kingdom (White, 1982, 1991). In fact, this field is completely neglected by programming researchers.

There is a vast body of literature on marketing professional services, including a dozen books on marketing architectural design services (Coxe, Hartung, Hochberg, & Lewis, 1987; Hoffman & Bateson, 2002; Hutt & Speh, 2001; Kotler, Hayes, & Bloom, 2002; Lovelock, 2001; Morgan, 1991; Swartz & Iacobucci, 2000). There is literature on considering the relationships between small provider firms and their clients (Glaser, 1972; Lowe & Glaser, 1995; Simmons, 1993). However, considering the status of programming situations, this information is hardly applicable. There are major differences between the marketing of services of established professions (law, medicine, and architecture) and activities that are not institutionalized as separate professions. The availability of publications is a major consideration affecting the methodology of the study (Denzin & Lincoln, 2017; **L**owe & Glaser, 1995).

2. Methodological History of the Marketing Project

The field research project that spurred the methodological reflection in this article was conceptualized as a study of the market of advanced programming services. The objectives were to find out about market segments and their sizes, prospective segments that offer new opportunities, and the distribution of demand by building types. A typical study of this type presupposes results that are quantifiable in terms of numbers and percentages, amount of revenue, shares of different types of providers, estimating demand, and identifying competitors. The most common research design for those purposes is the survey (Marsden & Wright, 2010). The survey requires a lot of preliminary information for constructing the sample as well as understanding of the subject matter in order to produce an effective questionnaire (Marsden & Wright, 2010; Jencik, 2011; Leedy & Ormrod, 2010). There were initial indications that such information was not available. However, it is not uncommon to start the preparation of survey questions despite limited initial information (Jencik, 2011; Leedy & Ormrod, 2010; Marsden & Wright, 2010). During this stage, researchers make their best guesses by using personal knowledge, adapting findings from other fields, and selecting questions from other industries.

At this point of the research design process, there were numerous suggestions for a marketing study involving a survey with standardized questions. The sampling approach followed the guidelines from industrial and professional marketing services. The presumption that small providers and clients would not have resources to use and pay for sophisticated research activities led to delimiting the population to all medium and large providers and clients. Even so, that population was large enough to warrant a survey, at least according to the initial plans. In this case, the ideal approach was to go with a census survey, which is normal for small populations. However, this still would have required very large resources for data collection and processing. There were suggestions to employ approaches that can delimit the sample to several hundred respondents.

A tentative questionnaire was prepared for pilot testing. Considering a general comprehension of the complexities of the nebulous market, this was a reasonable and sensitive approach. The survey consisted of five groups of questions: the first group of questions was intended to test respondents' understanding of advanced and research-based programming services; the second group of questions included triangulating questions that probed for the use of several major research methods in the programming process (the idea was to triangulate the understanding about advance programming products with the methods used in the processes); a third group of questions focused on the type of providers and their reputation for excellence; a fourth group of questions pertained to clients and their propensity to search for and to contract advance programmers. There were questions about the value of programming and the inclination to pay considerably more for a good product than for the customary practices. At the end, there was a group of questions that elicited business information about providers and clients in order to organize findings by different types.

The pilot test was conducted with 12 respondents that ranged from architecture students and academics, to practicing architects and design firm principals, to corporate facility planners and facility managers. The questionnaires were introduced personally. The respondents were asked about the clarity of the questions and were provided with clarifying information as needed. This extra work would never have been possible in an internet survey. After the interview, respondents were asked to show advanced programming products or were given more detailed prompts about the process and the conducting of field research methods. The purpose of this was to triangulate the answers to the standardized survey questions.

The test ended at the twelfth respondent for a number of reasons. Most importantly, we realized from the very beginning that all respondents were offering socially appropriate answers. In the current professional environment, there is enough information how advanced programming should be performed; there is a lot of pressure for evidence-based design, as well as the use of scientific methods and measurements. Therefore, this respondent behavior compromised the very idea to separate providers and clients who deliver or buy research-based programming. Everyone did, at least if we take their answers at face value. However, the additional probes and the review of some programming documents indicated that the programs were produced with personal knowledge, time-saver space standards, and design guidebooks. The interviews and observations were casual and based on everyday logic and skills. Because many of the providers had not taken any research methods courses or any

other comparable training, we got such warning signs from the very beginning of the pilot test, but continued on in order to garner more robust results. The type and professional status of the respondents did not affect the answers. The graduate students have been exposed in their classes to information about advanced programming, evidence-based design, user participation, and co-design. The professionals usually take CEU credits in order to maintain their licenses and in this process learn about new trends and preferred practices.

The pilot test also indicated that it had been very difficult for us to define a number of terms so that all respondents interpret them similarly. This was most obvious when academics were interviewed because they wanted to show potential problems with the questions, wording, and interpretations. Concepts like "advanced" and "research-based programming" were very nebulous for many people and allowed honest interpretation in the way respondents preferred in order to maintain their professional status. Many people interpreted the term "research" very liberally, including a simple information search in the library or on the Internet. "Advanced" had an even more broad interpretation because of the particular value load of the concept. Other options like "sophisticated" or "high quality" were similarly difficult for respondents to interpret and communicate. Any additional explanatory text in the survey made the process more time-consuming and tedious. We had to consider the limit of the respondents' patience if we wanted to obtain well thought out and trustworthy answers. The interpretation of the survey and observations were similarly broad. Any questionnaire submitted to a large number of respondents was considered a survey, and every architect was claiming he/she was doing observation.

The pilot test demonstrated a number of flaws in the method, the questionnaire, and the research approach in general. Based on the initial tentative findings, all programmers offer research-based programming, use sophisticated research methods, work meticulously, and spend a lot of time on the programming projects. The clients were presenting themselves in a similar way. Clients declared that they valued programming highly and were ready to pay for it. However, in the casual probes after the interviews, we found that they often contracted design firms that provided free of charge programming if the clients retain them for the design stages (Preiser, Looye, & Saile, 1993). Based on published sources (Preiser, Looye, & Saile, 1993), our calculations indicate that design stages provide about 10 to 20 times more revenue than programming.

At this point of the study, we became convinced that a survey with standardized—and even with open-ended—questions would not work. The robustness of the method and the statistical apparatus would be compromised by respondents' misinterpretation of major questions, socially appropriate answers, and a number of other issues related to professional status. No one will willingly provide information that they operate in a "quick-and-dirty" way, or that they are not willing to pay for sophisticated services despite their superior value for the money. Therefore, we would always "prove" that everyone works with highly sophisticated research methods and delivers research-based programming. Similarly, we would find that clients both value and pay for sophisticated programming services. The only question that will remain is why despite of this good market for research-based programming we do not know many people who make a living with such services. This discrepancy is both puzzling

and worrisome for people who intend to dedicate a career to facility programming.

We know many very capable and well-educated programmers, but many of them do not get large commissions and often have a hard time keeping their businesses afloat. Some of these programmers have academic positions that deliver a steady income. Others rely exclusively on income from schematic design and production documents. This indicates a complex and problematic situation that we evidently do not understand. We could not find publications on this topic. Several conversations during the pilot test of the survey demonstrated that the actual situation is much more complex and we need to understand it first before we continue with estimating the market shares of different types of providers. The new problematization of the situation has forced us to rethink everything and reconsider our initial intent to conduct the project with qualitative methods.

Because it is difficult to develop a good survey questionnaire based on personal knowledge and experience without sound theoretical models, theory is an important foundation in developing standardized questions and survey questionnaires (Marsden & Wright, 2010). When there are no good theoretical developments about a phenomenon, it is very difficult to study that phenomenon with quantitative methods and to measure it precisely.

When we do not have theories, it is best to aim initially at understanding our phenomenon of interest. The power of qualitative methods is in their potential for understanding the social world, its "mechanisms" of functioning, and the diverse situations and trajectories that emerge in different contexts (Denzin & Giardina, 2006, 2008, 2015). The lack of literature and theories regarding the market of advanced facility programming is one more reason to engage in an exploratory study (Denzin & Lincoln, 2017). Developing an initial understanding of the phenomenon is a much better approach than adapting principles and patterns from other service industries, even from the marketing of design services.

3. The Qualitative Turn

The pilot survey revealed major flows with the questionnaire and the information collected, and, ultimately, rendered them useless. At this point, the researchers decided to make a radical shift and restart the study with qualitative methodology. The problem situation phase was re-conceptualized in respect to a major paradox and puzzle—when everyone seems convinced of the necessity for high quality programming executed with sophisticated design methods, the market for such programming is very limited and actually, invisible. After several decades of talking about the importance of research-based programming, the profession of the independent programmers still has not been institutionalized. The actual actions of clients are just the opposite of the professed trends, and the architectural design firms are claiming best expertise in that area.

The tentative research agenda was to understand the market for research-based programming; to understand the decision-making of the clients, their values, considerations, and rationales; to identify their preferences and requirements for programming services. On the other side of the supply and demand chain, the objectives were to understand the market problems and

opportunities of firms that deliver research-based programming services, their major types, and their most important competitors. It was decided that in the process of the study, the research agenda would adapt, develop, and change as needed.

Instead of conceptualizing straightforward questions and searching for direct answers, the inquiry was conceptualized as a cascade of questions and answers that gradually builds a holistic picture of the programming market. With this methodological approach, the understanding of the programming market was contingent on understanding major decision-making processes, ways of thinking, considerations, values and priorities, institutional policies and guidelines, office politics, power structures, and so forth. This approach is contextual. It builds understanding from the ground up, develops foundations for conclusions in a gradual and step-by-step manner, and develops a series of cognitive structures to achieve research goals. Methodologically, the approach is broad, contextual, and reflective. This type of contextuality and depth cannot be achieved with survey instruments because surveys have a linear and standardized nature, lack two-way communication necessary for continuous clarification, and lack situational flexibility and adaptability of the instrument (Denzin & Lincoln, 2017).

4. Methodological Problems and Considerations for the Research Design

Before engaging with a particular qualitative research design, we considered several methodological problems and concerns. Most of them emerged in the process of the pilot survey; others came up in contemplation over the new research approach. It became very clear that we would have to work with "hidden" or "hard-to-reach" populations because of the very private behavior of both clients and providers (Atkinson & Flint, 2001). In addition, during the pilot survey, we witnessed that the program providers had their reputations to consider. Therefore, they tended to present their *espoused theory* (Argyris & Schon, 1974) rather than their *theory in action*, or their actual actions. Architects were aggressively presenting themselves as the best in the field. They believed programming is their turf and were very unwilling to share it with any other competitors. Clients were misrepresenting their actual reasons for contracting architects as program providers. Professional practices were clearly misrepresented in line with the notion of theory espoused (Argyris & Schon, 1974).

In addition, the very phenomenon of research-based programming happened to be very elusive, nebulous, and difficult to define univocally. The pilot survey indicated this in a number of ways, mostly by the reactions of the respondents to the wording of the questions. We have previously mentioned that there were no theoretical models for developing the questionnaire with standardized questions. Another threat was the use of politically correct and socially appropriate answers. Therefore, survey data taken at face value were evidently misleading. The introduction of statistics reinforced this false perception for scientific rigor and robustness while processing inaccurate data. This was a classic situation illustrating the adage "garbage in, garbage out." In the process of developing the qualitative research design and conducting the qualitative interviews, several other considerations emerged and were dealt with accordingly

5. Information about the Qualitative Research Design

Research approach. After the initial literature search, there were many questions be discussed in respect to the formulation of the problem and the goal structure of the project. This lack of information relevant to the present study was a major obstacle for conceptualizing the research situation in detail, thus impeding the clarity needed for designing a solid and productive survey or using other positivist research tools. Under these circumstances, we made a decision to develop the study using a Symbolic Interactionist perspective, and within that area, we selected the Grounded Theory approach (Charmaz, 2006; Glaser, 1978, 1992, 1998). We took into account additional methodological and epistemological considerations following Guba and Lincoln (2000), Lincoln and Guba (1985), as well as Lofland and Lofland (1995). We also greatly benefited from a few more specialized texts on the use of qualitative methods in marketing, business, and relationships with customers (Locke, 2001; Lowe & Glaser, 1995; Sayre, 2001)

The goal structure of the study. The problem was construed regarding the insufficient information about client behavior in the field of facility programming. The goal of the study was to better understand facility programming clients. The objectives were to construe the way clients think, the issues and influences they take into account when selecting a programmer, and the decisions they make, as well as the identifying implications for the market and provider selection. However, since survey design requires that the goals and objectives are well defined and followed meticulously during the process of formulating questions and selecting instruments, such a flexible, emergent, and broad teleological structure is impossible in survey design.

Two-stage research design. The actual actors in the field—the clients who commission facility programs—were not "visible" over the course of the study. Because of that, the universe of clients was construed in terms similar to "hidden populations" and "hard-to-reach participants" (Heckathorn, 1997).The problem of "reconstructing" the target population required special inquiry to identify client population and to sample prospective interviewees. This problem led to organizing the investigative effort in two stages: first, identifying the client population, and second, researching the clients.

*Data collection methods***.** Two separate interview guides were designed for the two stages of the study. In the first stage, the researchers used an interview guide only for the *service providers.* The objective was to identify clients that can offer a wealth of information. The providers were probed about their clients—expectations, requirements, sophistication, and ability to relate project situations and types of programs, as well as typologies of clients and references to particular clients. In addition, there were probes about alternative types of program providers (competitors). The second stage was the core of the study. The interview guide was created for exploring *clients'* decision-making process, both as facilities planning officers and human beings. The interview guide probed the planning officers about their needs, requirements, problems, preferences, and evaluation criteria. The interviews lasted up to two hours each.

Sampling. The research situation was construed in terms of professional services marketing

for business clients (industrial marketing) (Hutt & Speh, 2001; Webster, 1995). Additional considerations were made for "hidden populations" and "hard-to-reach participants" (Atkinson & Flint, 2001) as we mention above. Compared to consumer marketing, industrial marketing sampling is based on the premises that the demand is concentrated and that the number of buyers is very small. The logic of the market presupposed the use of theoretical sampling. In addition, an important methodological objective was to exploit information-rich typical cases. The sample was developed through “snowballing” and continued until theoretical saturation. In accord with the two-stage research design, during the first stage, the purpose of the sampling was to identify units of study for the second stage. The target included service providers who had a lot of experience working on large and complex facilities (the building types that most often require separate programming services). During the second stage, the sampling focused on the programming clients

6. Comparative Analysis of Findings and the Contribution of Qualitative Methods

It became clear that part of the problem with the standardized survey questions emerged because of the fluid and diverse terminology across different industries, building types, and professional backgrounds. It took some time and intensive interaction to negotiate common meanings and content. This was not as easy a task as it might seem because of industry traditions and jargon. The fluidity of the predesign process itself was a major driver for the problems. The segmentation of the predesign process was different in different industries. Also, over time it became apparent there were different traditions regarding initiating and continuing the process, identifying the key segment or effort area, and searching for the best providers.

In most cases, the intended answers did not fit with the standardized questions, even where the open-ended questions were concerned. However, a shift toward more open questions and encouraging longer answers would have made statistical coding and processing of information very complex. Also, there would have been a lot of compromise in the process of fitting the answers in the code categories. This would have inevitably undermined the power of the statistical analysis. Our thought process was that the very nature of the questionnaire, the predetermination of the topics, and the lack of flexibility in probing would have compromised the information retrieval process. Such threats emerged very clearly during the pilot test.

Facilities planning officers were aware of the importance of organizational design, operations improvement, and related research. They knew that good space programming should be based on sound functional programming, and functional programming should be based on organizational design and operations improvement. The study provided information that in many cases clients require organizational design expertise from the service providers. In several cases when clients interviewed service providers, they inquired about their staff and capabilities to engage in organizational redesign and operations improvement. The survey would not have identified the requirement for organizational design simply because there were no grounds before the survey to include such questions. Before the in-depth interviews,

there was no information about the substantive role of organizational design and management consulting in facilities planning. We had not detected such information in our professional contacts, in journal articles, or in books. This was one of the surprises stemming from the qualitative inquiry, and it demonstrates one advantage of that methodology.

Clients were aware of the importance of field research with robust methodology and well prepared professionals. However, they were looking at the big picture of organizational design and operations improvement. They knew that in most cases these tasks require intensive collection of information at the site. They knew the traditions of the most respected types of service providers and relied on them. Yet, in some way, questions about research design and particular methods did not yield direct answers. Only the probes after the fact helped retrieve relevant information. Initial answers were vague and not specific. However, the probes brought out a wealth of information.

The triangulation techniques provided very useful information. One productive method was case study reconstruction and analysis. Clients were asked to select an exemplary programming project and to track the process and the methods used. Document analysis also proved helpful, providing indirect evidence about particular methods. The core of the document analysis was programming texts and materials.

Client officers were aware of a wide array of program providers, with different educational backgrounds, organizational affiliations, sizes of organization, and reputations. From these client officers, we actually learned about types of providers that are not mentioned in academia and in the traditional books on programming. One reason for the lack of information in traditional academic venues is the bias of academia in favor of architecture and architectural firms as providers. Our personal acquaintances revolved around the community of environment and behavior scholars or programmers. It was surprising how different professional communities were isolated, did not communicate much, and did not have channels for sharing information. The pilot survey uncovered some of these providers. However, the major problems were in the initial assumptions about program providers, the novel terminology, and the uncertainty in the interpretation of answers. Only probing in the process of in-depth qualitative interviewing allowed for better understanding what clients had meant in their initial responses. The probes allowed us to learn about more types of providers and to consider the variety of their roles on the market.

In the course of the in-depth interviews, new themes emerged and unexpected information started surfacing. Clients mentioned that they encounter a number of problems when they hire programmers and designers separately. In such cases, if there is a problem, designers tend to blame programmers and programmers tend to blame designers. Client facilities planning officers reported that in such situations it is very difficult to hold a particular provider responsible and accountable. As a result, they were under scrutiny and pressure from their top-level management for not being able to procure a facility without problems. Our interviews and probes revealed that top management rarely appreciated innovative programming and service over and above the customary.

Understanding the program commissioning process was key to understanding the market for

programming services, the demand for quality, and the demand for particular types of providers. At this time, some of the paradoxes and puzzles started to become clear. The logic of the market started emerging. There were no more contradictions in the interpretation of the survey questions. The facilities planning officers had answered honestly to the best of their ability based on their honest interpretation of the standardized questions. The problem actually was ours, and it was rooted in our lack of information about the functioning of the real world market for programming services. We should mention here that there was no way to obtain such information from the literature on programming, from books on marketing of design services, or from the domain of professional services. No one would put in writing such discrediting information. No one would confess that they were not selecting the best providers, but instead, they had selected the safest option.

7. Methodological Reflection and Discussion

Reflecting on the research process, we found that the standardized questions and even the open-ended survey questions would not have brought out the information we both needed, and actually, found thanks to our qualitative research design. We came to our most important results through the process of in-depth interviews. Our experience led us to several general observations about the differences between qualitative and quantitative research, as well as some specific insights based on this specific case.

We can draw some general conclusions about the juxtaposition between the two modes of inquiry. Qualitative research deals with a small number of cases and aims at deeper understanding and explanation through qualitative and interpretative methods. Meanwhile, quantitative research typically deals with a large number of cases, looking for statistical patterns to reveal tendencies or prevalence of certain relationships. Qualitative research has a higher validity (in-depth probing) but lower generalizability (because of the small sample, selected theoretically or purposely), while quantitative inquiry has a higher reliability (consistency, replicability) and generalizability (because of the large number of cases and random sampling) but validity could be an issue. Yet, qualitative investigations typically involve flexibility, inductive reasoning, and building a theory from “the ground up,” whereas quantitative investigations are standardized, rely on deduction, and involve statistical testing of hypotheses developed out of already existing theoretical propositions.

In addition, we can turn to some specific insights based on our practical experience with problems we encountered while carrying out our present empirical case. The qualitative interview allowed us to process information in real time, come up with conclusions, and prepare new probes to delve deeper into the emerging findings. For instance, we did not believe some of the information at first and had to probe several times to make sure we were not misleading the interviewee or we were not misinterpreting the answers. Other information was so sensitive that we needed to pose several indirect probes to obtain it. In all cases, we needed to develop rapport with the interviewees and to convince them that we would keep their identifying information confidential. The information they provided was sensitive, important for their job security, and could be damaging for their careers. We also felt extreme

responsibility to conceal the identities of the interviewees.

Generally speaking, a typical survey may not offer the comfort of rapport, the trust in the corresponding counterpart, and the job security needed. Even answering open ended questions can be superficial and provide minimal information. We all know that open-ended questions are often ignored, in particular by busy people. We also know that the response rate at internet surveys is low. Even when respondents decide to participate, they try to complete such surveys fast enough to not let doing so interfere with their official daily tasks. In most cases, a survey should not last more than 20 minutes. That is the time a typical employee can spare during the day. However, in order to delve into the issues, we needed to pose more questions, and our questionnaire grew to the point that a good individual response, with good recollection and thinking over the questions, would go up to 45 minutes. This is not realistic on a large scale and it presupposes that respondents might do the job superficially after answering thoroughly for 10 minutes. Another problem is that survey researchers are not in full control over the types of respondents. Therefore, the sample could be skewed. Asking too many demographic and professional questions could also lead to disregarding them. This diminishes useful information for considering the type of respondent, social and professional status of the decision-maker, and the formal influences on the process of contracting programmers.

However, the qualitative interviews allowed us to make two or three sessions per respondent, lasting from 60 to 90 minutes. The first session was dedicated exclusively to developing rapport. In it, we had two major goals: one was screening and selecting the appropriate respondent. The other was developing rapport. On several occasions, after the initial session, we decided that the facilities officer would not fit into our theoretical sample and did not pursue a subsequent meeting. With a survey research design, such filtering would not be very effective.

Up to this point, we have discussed several advantages of qualitative methodology and disadvantages of quantitative methodology. We expect that quantitative scholars will challenge our position and attitude towards quantitative thinking. In this light, we would like to take some time to discuss some options and to make several caveats.

For starters, we uncovered the mystery of the programming market and the paradoxes and contradictions between words and deeds. However, were not able to find out how large particular marketing segments are. We did not find how many or what percentage of the best program providers were planners, architects, or management consultants. However, we did discover who the new and unexpected players in the field are. We also developed a general impression about the scale of their presence and involvement on the market for programming services. Thus, we began to see new segmentation of the market, new types of providers, and new stratification of providers. This also allowed us to see the field of facility programming, the types of programming, and the need and role for research-based programming in a new way. Our study went over and above its initial goals and objectives. This is typical for qualitative research projects because of the requirement for a broad net and development of the objectives in the process of the study. The holistic and contextual nature of qualitative

methodologies requires a large volume of data collection, on many topics that initially were not considered, with the expectation that this information will be a key to understanding the actual situation.

In order to justify our findings and convince potential users in their viability, it is imperative that users are skilled in understanding qualitative research reports. It is important to develop an interpretative attitude and expectations, goals and objectives, and a general state of mind. Qualitative research may not bring percentages about market shares of different program providers. We cannot claim certainty in terms of confidence intervals. We can only suggest general tendencies and the boundaries of their applicability. For example, on the grounds of our theoretical sample, we can claim most of the facilities officers in the health care industry and corrections, many of the officers in library and educational facilities, and some officers that develop entertainment facilities reason and act in the way we have mentioned above. Another generalization we can make is that we can say that this way of thinking appears in the areas of large, complex, novel, and nontraditional facilities and newly emerging building types. In all these areas, although decision-makers hire predominantly architecture firms, they are intellectually prepared to hire independent programming firms if there is a general shift in society regarding perceptions about building professionals. The moment the public and the CEOs coming from its ranks understand that programming is different from design, they will be more supportive of taking risks with separating the programming and design processes or may think about other forms that preserve the integrity of programmers and the quality of the final design.

A reader of a qualitative research reports should expect to learn about the big picture, trends and tendencies, and contextual conditions that make this picture a guiding representation of reality. The readers need to be ready to deal with complexity, fluidity, and tentativeness of the results. It is important to know how to interpret qualitative findings when people want to get oriented about sizes, dimensions, and volumes. Readers need to know how to read the information and how to develop their own perceptions and visions.

Conversely, in quantitative research, percentages and numbers create the impression of exactness and reliability of information. They bring a level of confidence that often is not deserved. We all know that when the questionnaire employs the wrong questions, we get the wrong answers, and later the statistics will not improve the validity of information.

8. Concluding Remarks

We engaged in this methodological project in order to contribute to the emancipation and appreciation of qualitative research methods. We highlighted the heuristic potential of these research tools by using one case study that illustrates and exemplifies their application. In the process of studying the market for research-based facility programming, we reflected on the heuristic potential and productivity of the research designs and methods that were considered and discussed in the case study. We made a comparative analysis of the survey and qualitative research methods designs when used for the study of situations that had previously not been

researched or had been only rarely researched.

The survey research design works well for well-researched and well-theorized phenomena where the construction of the survey questionnaire is a matter of established protocols and routines. However, when studying unique and complex phenomena and situations, the method does not work well (Lowe & Glaser, 1995). At the pilot stage of our project, it was clear that the survey was missing a lot of important information, brought socially appropriate answers to the questions, and did not bring data that can unveil what is actually happening in the market for research-based programming services. Our project demonstrated the limitations of the survey research design. The information collected with the pilot survey indicated major problems with the data collection instrument in this specific situation.

The qualitative approach led us to very different findings and conclusions compared to the survey. The qualitative methodology produced better results in sampling programmers and clients in hard-to-reach populations; it also produced more trustworthy information about a phenomenon that had not previously been researched.

Our research program will continue with further comparisons between survey and experimental research designs on the one hand, and qualitative research methods design on the other hand. We will continue highlighting the heuristic potential and the limitations of different research methods so that researchers with different paradigmatic background can make their informed choices. This is particularly important in the realm of phenomena and situations that have not been researched well and there are no substantial research publications to provide guidelines and examples for designing surveys and experiments.

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