A MARKET RESEARCH STUDY OF KANSAS CITY CONSTRUCTION COMPANIES: INVESTIGATION OF AUTOMATED PAYROLL NEEDS

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LAWRENCE, KANSAS

MAY 1978

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
MASTER OF BUSINESS ADMINISTRATION
December 1987

Name; Christopher James Foltz

Date of Degree; December 1987

Institution; Oklahoma State University

Title of Study; A Market Research Study of Kansas City Construction Companies; Investigation of Automated Payroll Needs

Pages in Study; 57 Candidate for the Degree of Master Business Administration

Major Field; Business Administration

Scope and Method of Study; During the summer and fall of 1987, a market research survey was conducted to gather information about Kansas City construction companies automated payroll needs to determine the market demand for a software product or service.

Findings and Conclusions; There were sixty-one respondents from a sample of two hundred twenty-five Kansas City construction companies. Data provided by the respondents indicated that a need exists for an automated payroll service capable of completely automating state tax calculations and reporting in accordance with Missouri labor union requirements.

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Research Report
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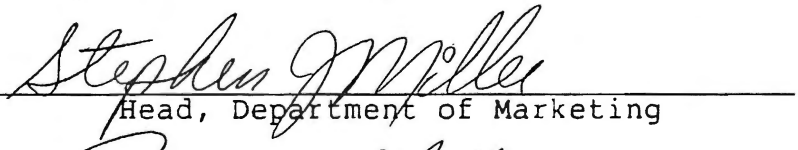

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CHAPTER I.

INTRODUCTION

The last several decades have seen a tremendous change in the importance placed upon data processing and information generating services. Our society, the post industrial society, is based upon services. As the authors of the best selling book 'Megatrends' indicate, the majority of these services are engaged in the creation, processing, and distribution of information. One of the most successful services spawned by the information society has been the computer services industry. This industry processes information for companies on a contractual basis.

The giant of the industry, Electronic Data Services (EDS), has annual revenues that exceed $550,000,000 per year. It's very big business. However, the industry can support the 'Mom and Pop' data processing service companies. There are thousands of very small companies who enjoy moderate revenues supporting the specialized information needs of many industries. That is the premise for this research paper.

Preliminary research into the data processing service industry clearly supported a general hypothesis that the need for service companies existed and the market had not nearly been saturated. The research also indicated that 'Mom and Pop' organ-

izations could coexist with the giants, especially if they specialized by servicing the information needs of specific industries.

A preliminary objective of this research was to identify a potential market, in the Kansas City area, to investigate. Exploratory research indicated that a potential market for data processing services existed for Kansas City construction companies.

Due to the uniqueness and geographic location of Kansas City construction companies, they face an unusual payroll situation. Their employees can be assigned to work on jobs in both Missouri and Kansas during the same pay period, This situation creates a tax liability , for the employee, to two states. If the affected employee is a member of a Missouri labor union, union bylaws require that the employer deduct state taxes, for each state worked in, based upon number of hours worked in each state and prepare monthly reports documenting it.

Most Kansas City companies don't have to be concerned with payroll problems because of the growing availability of either computer software products or computer data processing service companies that offer an automated payroll service. However, the unique situation that exists for Kansas City construction companies require more complicated payroll processing capabilities than those offered by the generic payroll products and services. If an area construction company desires an automated payroll, they must either purchase a software product and modify the state tax algorithms or contract with a service company which can only

provide calculation functionality for gross pay, federal withholdings, and net pay; the company must still calculate state tax amounts manually and submit to the service company each pay period.

This situation presents an opportunity for the development of a product or service that completely automates the payroll function for Kansas City construction companies and enter the rapidly expanding computer software industry. Although it's a highly competitive industry it can be penetrated with a product or service that satisfies an unfulfilled need.

The major objective of this research is to determine whether or not a market exists for either a computer software product or a monthly computer service that would completely automate the payroll function for Kansas City construction companies. The research will be designed to gather information about Kansas City construction companies and their payroll and accounting functional needs that can contribute to determining the market demand for such a product. In addition, the research will gather data that can contribute to developing and implementing marketing strategies if the need for such a product or service is found to exist.

The major objectives of the research are: 1. Collect data that will allow for the identification of specific payroll needs for Kansas City construction companies. 2. Measure the extent to which Kansas City construction company payrolls are automated. 3. Measure the extent to which Kansas City construction company accounting procedures are automated, only for companies that con-

tract with computer service companies. 4. Collect payroll cost information, costs attributable to both automated 5. Identify current automated products and services being used by Kansas City construction companies, only for companies with automated payroll and accounting systems. 6. Determine the attributes or capabilities of the products or services currently being employed by the construction companies 7. Measure customer satisfaction with current products or services. 8. Determine whether or not the construction companies would be interested in a completely automated payroll.

These objectives are discussed more completely in Chapter 3, Theory/ Research Design.

CHAPTER II

LITERATURE REVIEW

Nine years of data processing experience has provided me with insight into the data processing industry that has been very valuable to this research project. Industry contacts,particularly with the data processing service companies, allowed me to conduct preliminary research about data processing service bureaus. Contacts at ADP, Inc. in Kansas City agreed with my general hypothesis that there was a market for specialized data processing services.

Construction companies' payroll clients of ADP did not have the capabilities described by this research. ADP, as one of the larger national data processing service companies are not interested in specialized markets. Their services are generic so they can serve a horizontal market. However, the ADP contacts indicated that local highly specialized markets have their place in the service industry and that there are several successful 'Mom and Pop' operations in Kansas City.

A review of the literature available about the data processing service bureau industry confirmed all preliminary research and ideas as accurate. Several important aspects about data pro-

cessing and the service bureau industry were identified. They included:

1. There's a well established need for computer services.
2. Generally, data processing users expect individualized data processing service; products and services to meet all of their specific requirements.
3. Service bureaus don't generally meet specific requirements of their customers and can be unresponsive to their needs.

Several articles reviewed as part of the literature survey clearly identified the need for computer service companies. To some degree, this has been attributed to a change in America's business community as they rely more and more upon automation for a competitive edge. A trade journal specializing in office services, 'The Office', stated in their June, 1986 issue that 'computer and data processing services, along with the rest of the business services industry, is fast growing and may be representative of changes in the way many American companies are doing business'. This statement was based upon research conducted by the Department of Labor in 1985. The article continues on to attribute computer service popularity to the introduction of mini and microcomputers, their associated reduced costs and improved performance, and the resultant increase in new application feasibility. The article states 'the more computers and their applications proliferate, the greater will be the need for programming services.

An Information Digest article, ' Computer Services - the Other Option' states that computer service bureaus 'offer the ad-

vantages of a computer, but none of the computer's disadvantages'. It indicates that many companies use service bureaus for batch processing of their payroll checks, accounts receivables statements, accounts payable , and general ledger reports. It emphasizes that 'these computing services are one of the most cost effective ways of handling these type of business requirements. However, despite the well documented need for computer services, the literature review revealed that the customer expects a lot from these service companies. The 'Computer Services - The Other Option' article described a bottom line standpoint for computer service bureaus as one where 'computer service firms have to be more cost effective, more effecient, and more responsive to your business than even an internal data processing department'. Being more effective and efficient comes with the economy of scales. There are clear financial advantages associated with service companies; some of which are no software costs, no computer personnel costs, no software or hardware maintenance costs, no training costs, etc. However, being responsive is more critical and more important to the customer. The article continues on to state that 'computer service firms have to be responsive to your business needs in the same way that you must be responsive to your customer's needs - service is their only business'.

The above mentioned articles are clearly demonstrating that a need exists for computer service companies and that their success is contingent upon meeting customer needs. The emphasis upon meeting customer needs is expounded upon in several other

articles. In April, 1986's 'Datamation', an article entitled 'Hold the Pickles, Hold the Lettuce' traces the evolution of data processing as an individualized service, identifying how the business community has grown to expect individualized service from data processors, even when it is infeasible. This attitude supports the hypothesis that there's a market for individualized, specialized services. The business community, including Kansas City construction companies, expect it. When it's not available, as it is not for Kansas City construction companies, customers are not satisfied and are eager to accept new products or services. An objective of this research, of course, is to validate this hypothesis.

Another Datamation article, a January 1987 article entitled 'Here Come the Super Service Bureaus' presents another angle regarding the need for service bureaus to be specialized. It addresses the evolution of service bureaus from the seventies to the eighties and states 'the service bureau industry had a radically different appearance in the 70's as it does now'. It attributes this change to the introduction of the microcomputer in the late seventies and the business communities' open armed acceptance of it in the eighties. In the seventies service bureaus offered generic nonspecific applications to customers. The customers only option was to build the systems themselves, requiring a major expenditure in computer hardware, software, and personnel. The prohibitive cost forced smaller companies, like construction companies, to accept what was offered. The introduction of inexpensive computers as personal computers, com-

puters that were user friendly and didn't require data processing professionals to operate, forced service bureaus to provide specialized services, services that meet all needs or face losing customers to personal computers.

Although the Datamation articles made it clear that service bureaus had evolved into a situation where they're required to provide more specialized services to better meet their customer's needs, other articles implied the service bureaus weren't necessarily responding to the newer requirements. A prominent banking industry trade journal, 'ABA Banking Journal' published an article in the August, 1986 issue titled 'Will the Pendulum Swing Back to Service Bureaus' that addresses this issue. It states that one of the comments most often heard about computer service bureaus is that they are unresponsive and inflexible'. The article emphasizes that this is a legitimate complaint. The reason this situation exists is because most service bureaus offer data processing services that do not fit all the needs of the customer. They do so in order to offer one service that addresses the general requirements of a broad range of customers. Of course, this situation creates product and services needs that aren't being met. These are the ideal conditions for new products and services to be introduced into a market.

The review of existing literature clearly emphasized a need for computer service bureaus. It also revealed that existing computer service bureau companies are not meeting all their customer's needs. It suggested that specialization within the industry isn't being provided. This documentation supports the

hypothesis that a market exists for a product or service that specializes in automating Kansas City construction companies' payroll function. And, the preliminary interviews with industry contacts, also supports this hypothesis.

CHAPTER III

RESEARCH THEORY AND DESIGN

Research Plan

William Zikmund states in his market research textbook, Exploring Market Research, that research design is 'a masterplan specifying the methods and procedures for collecting and analyzing needed information'.

The needed information for this research was specific data about Kansas City construction companies and their payroll and accounting systems. So, the question became 'what is the plan for specifying the most effective methods and procedures that can be utilized for collecting this data?'.

The Plan prepared for this research included: 1. Identification of research objectives to ensure the data collected was appropriate for solving the research problem. 2. Identification of the data sources, both primary and secondary. 3. Identification of the design technique, either survey, experiment, historical data, or observation. 4. Identification of a sampling method, if the design technique chosen is either survey or experiment.

Objectives

The formulation of the objectives were a result of following an approach presented by Zikmund. The approach consisted of the following three steps: 1. Describe and document the problem that the research is addressing. 2. Identify the questions that need to be answered to address the problem. 3. Formulate research objectives that address the questions that need answers.

Following these steps resulted with identifying the following problem, is there a market for a fully automated product or service that meets all the payroll needs of Kansas City construction companies?

The questions that need to be answered to address the problem are as follows. 1. What kind of payroll systems are currently used by Kansas City construction companies? This would include those developed inhouse, those purchased form a software vendor, those contracted with a service bureau, or a combination thereof. 2. Are these payroll systems meeting the current needs of Kansas City construction companies? 3. Are Kansas City construction companies satisfied with the current payroll products and/or services? 4. Would Kansas City construction companies be interested in a fully automated payroll system? 5. What kind of

price could the market bear for a fully automated payroll product or service?

The research objectives that address the questions were identified as follows. 1. Collect data that will allow for identification of specific payroll needs for Kansas City construction companies. 2. Measure the extent to which Kansas City construction company payrolls are automated. 3. Measure the extent to which Kansas City construction company accounting procedures are automated, only for companies that contract with computer service companies. 4. Collect payroll cost information , costs attributable to both automated and manual payroll functions, about Kansas City construction companies. 5. Identify current automated products or services being used by Kansas City construction companies, only for companies with automated payroll and accounting systems. 6. Determine the attributes or capabilities of the products or services currently being used by Kansas City construction companies. 7. Measure customer satisfaction with current products or services. 8. Determine whether or not Kansas City construction companies would be interested in a completely automated payroll.

Objectives 1,5,and 6 address Question 1. Objectives 1 and 7 address Questions 2 and 3. Objective 8 addresses Questions 3 and 4. Objective 4 addresses Question 5.

Data Sources

The second step of Zikmund's Plan called for the identification of data sources. Research data sources can be either primary or secondary. The primary data sources for the type of information necessary for this research was Kansas City construction companies. Secondary sources included trade journal articles and previously published industry statistics.

Investigation of several secondary sources revealed a lack of data pertinent for this research. The data requirements for this research were too specific to be met by secondary sources. Therefore, the only feasible source was primary data.

The most accurate source of primary data was determined to be Kansas City construction company employees responsible for the payroll functions. 90 % of Kansas City construction companies employ fewer than 75 employees so the payroll function would normally be the responsibility of the office manager. Therefore, the primary source of data was Kansas City construction company Office Managers.

Research Design Technique

Research Method The first issue to address with research design was the selection of a basic research method. The four basic methods for collecting descriptive data are survey techniques, experiments, historical data, and observation. A description of each method and their respective advantages and disadvantages is presented below.

Surveys. The survey is the most common method for collecting or generating research data. It's a technique whereby information is gathered from a sample of people by using a questionnaire. Survey objectives usually include identifying characteristics of target markets, measuring consumer attitudes, and describing consumer purchasing patterns. The questionnaire is administered either by telephone, mail, or in person.

The advantages of surveys are that they are quick, inexpensive, flexible, efficient, and an accurate means of assessing information about a population. A disadvantage is that surveys can be error prone. Random sampling errors and systematic errors resulting from poor research design or poor execution of research can plague the survey results. However, the disadvantages can be overcome with proper design and execution planning.

Experiments. Experiments are a method of collecting qualitative data that allows investigation of causal relationships. It involves actual testing of product in real life situations. Experiments allow investigation of changes in one variable while manipulating one or more other variables under controlled conditions. This creates the greatest potential for establishing cause and effect relationships. This type of research method is most effective for testing product attributes.

The obvious advantage of experiments are that they gather valuable data regarding the preferences of sample markets. It's based upon real life experiences. The disadvantages revolve around cost and administration. Experiments can be very costly because they require human resource expense. And, administering

the survey can be quite involved; it constitutes the coordination of people and facilities.

Observation. Observation is a technique oriented toward recording the behavior of a population. It is simply a record of observed behavior where observers record predetermined activities of the entity being observed (activities can be recorded by mechanical devices).

The advantage of observation is that it records behavior without relying upon reports from respondents. The disadvantage is that it does not allow for measurement of attitudes, opinions, motivations, and other intangibles of the mind.

It is an excellent method if the objective of the research is simply to record behavior, however, if consumer attitudes and opinions must be measured, other methods are more appropriate.

Historical Data Studies. Historical data utilizes previously collected data. It is a form of secondary data and is often used to predict. It generally utilizes a greater quantitative sophistication. An example would be the use of a mathematical model to predict future product sales by using historical sales data on the basis of a correlation with related variables.

The primary advantage is that historical data doesn't require extensive data gathering time and resources and is therefore less expensive. The disadvantage is that it is not as accurate as primary data.

Conclusion. An analysis of the methods to determine the most appropriate method for this research revealed that a survey technique would clearly be the most beneficial.

An experiment or observation technique would be too costly and would not lend itself well to the construction industry environment. As previously indicated, initial investigation of secondary or historical data sources didn't identify sources specific enough to provide the type of data necessary for this research.

Survey Type

The next issue to address with research design was to identify the type of survey that would be most applicable to this type of research project. There were three types of surveys analyzed; personal, telephone, mail.

Personal surveys are usually administered when the survey is too long to conduct over the phone or when there is material to show the respondent. It allows for indepth probing and is necessary for placing or testing a product. The most common techniques are door to door, central location interviewing (mall interviewing), and expert interviewing (with a vendor, dealer, executive, etc.). A more indepth technique is the use of a focus group. Focus groups are unstructured discussions that allow subject to speak freely about their attitudes toward specific topics.

The advantage of personal surveys are that they are accurate, comprehensive, versatile, and controllable. The disadvantage is the high cost of administering.

Telephone surveys are used when a random population is required. Respondents are asked to answer a number of questions over the telephone. A disadvantage is that it usually requires many contacts to obtain a completed interview because of the reluctance of people to answer the questions. The advantages are that they are easily validated. In addition, if the interviewer is good, they are very controllable. Also, the relative economy of a telephone survey is good.

Mail interviews involve mailing questionnaires with completion instructions to the population being sampled. Usually, an incentive is provided to encourage the respondent to complete the questionnaire. Response rates are usually very low and a large number of questionnaires must be mailed in order to receive a representable response.

The primary advantage of mail surveys are their cost; they're very inexpensive. This allows for a wider survey distribution and a more representable sample. In addition, the lack of interviewer/respondent interaction creates anonymity that encourages accurate responses to sensitive questions; respondent interaction creates anonymity. The primary disadvantage of mail surveys is that they are less flexible and do not allow the probing that personal and telephone surveys provide. In addition, the response rate for mail surveys is usually low which can result in nonresponse error.

An analysis of the various survey techniques, including the weighing of the advantages and disadvantages, resulted in choosing a mail survey as the most appropriate survey technique for this research project.

Time and cost was an important factor, but, the most important reason for choosing a mail survey was to increase the possibility of receiving the most accurate data about Kansas City construction companies and their payroll processes. Revealing sensitive payroll data would be encouraged through the anonymity. In addition, identification of accurate data might involve some investigation on the part of the respondent. Mail surveys would allow for this whereas telephone and personal interviews could inhibit it.

Survey Design

The next issue to address with the research design was to design a the survey to be used as the data gathering instrument. Two components of a survey was considered during design, the cover letter and the questionnaire.

Cover letter. A very important part of the survey design is the cover letter. It's the first exposure the respondent has to the survey and the interest generated by the cover letter influences the probability of the respondent completing the questionnaire.

There are several attributes for a cover letter to possess to motivate the respondent to complete the questionnaire. The first is that the initial sentence or paragraph must be an atten-

tion getter This encourages the respondent to continue to read the letter.

Once the respondent's attention has been captured, the letter must generate the reader's interest in the survey and provide sufficient incentive to complete the questionnaire. This can be accomplished by employing a number of different techniques. If the sample being surveyed has an interest in the results of the survey, a technique to employ is to offer to share the results of the survey with the respondent. If not, an alternative technique is to offer a gift to the respondent as an incentive for completing the survey. Another technique that can motivate the respondent to complete the questionnaire is to make them feel important or special for being chosen to participate in the survey.

Another cover letter attribute to consider is to make it easy for the respondent to complete a questionnaire. A primary factor that can inhibit a respondent is the time required to complete the questionnaire. The cover letter should stress that the questionnaire is simple and indicate the amount of time that will be required to complete. If the questionnaire is long this technique will obviously be inappropriate. A technique that will always apply, however, is one that makes it easy for the respondent to return the completed questionnaire. It entails providing an addressed stamped envelope for the respondent to mail the questionnaire.

A final attribute to consider is one of anonymity. Respondents can be hesitant to provide information if their name or company name is associated with their responses. An effective cover

letter should stress that the results will be anonymous to eliminate this respondent concern.

The design of the cover letter for this survey incorporated all of the techniques that increase the response rate. A copy of the letter has been included in the Appendix as Appendix A.

The first sentence of the opening paragraph was designed to grab the attention of the respondent. It immediately references an aspect of the industry being sampled that causes problems for the industry, but it doesn't mention the actual problem. Referencing the aspect grabs their attention but not mentioning it arouses curiousity to encourage reading on.

The letter continues and explains the problem and the objective of the research. The objective of the research, to determine whether or not a market exists for a product that will address a problem that the respondents experience, should generate respondent interest. But, to further promote interest, several techniques were employed. The first was to make the respondent feel special for being selected to participate in the survey by emphasizing 'only premier Kansas City companies' were chosen to participate. In addition, the cover letter stresses that the results will be shared with the respondents, if requested. This should generate increased interest level.

Two techniques were employed to encourage response by stressing that the survey will require minimum respondent time and effort to complete. The first was to emphasize that we 'realize the importance of your time' and stress that we 'have designed the questionnaire so that it can be quickly and easily

filled out'. The other was to clearly identify that a 'self addressed stamped envelope has been included for your convenience'.

Finally,. the importance of anonymity was addressed by reassuring the respondent that 'the information you provide will be used only in statistical totals to ensure confidentiality'.

Questionnaire. The actual questionnaire design involves preparing questions that are easy to understand and easy to answer, but provide the data necessary to address the research problem. This can be a challenge.

The types of questions asked and the manner in which they're presented to the respondent is dependent upon the research objectives and the type of data analysis that is required.

There are several types of questions that can be used to gather data. They are open-ended, dichotomous, multiple choice, and scale. Open- ended are fill in the blank, there are no limits or ranges to the responses. These are useful if you don't know what the possible replies might be. Dichotomous questions allow two responses, the most common type are yes/no questions. They are easy to tabulate and are useful as a lead-in to more specific questions. Multiple choice provide several alternative answers where the respondent can select one or more of the alternatives. They are easy to tabulate and provide flexibility for factual and attitudinal responses. Scales can be considered a type of multiple choice question. They are used to measure attitudes by asking the respondent to place their opinion on a scale ranging from one spectrum to another, such as from poor to excel-

lent or from very satisfied to very dissatisfied. They permit objective measurement of attitudes and feelings.

A major objective for question preparation for this research was to keep the questions short, simple, and easy for the respondent to answer while still collecting the data necessary to address the research objectives. To collect data regarding current payroll and other accounting needs, current automated product/service attributes, and customer interest levels in new products or services; simple yes/no (dichotomous) and multiple choice questions were deemed appropriate. However, to gather current manual and/or automated payroll and accounting function cost data, open-ended questions were necessary. Preliminary research into cost data indicated that a wide range of costs existed, therefore it was not appropriate to establish cost ranges for respondents to either choose from or provide yes/no answers to.

The final questionnaire prepared for use as the data gathering instrument consisted of only 7 major questions, with 11 types of data being collected. Of the 11 types being collected, 5 are collected using yes/no questions, 3 using multiple choice, and 3 using open-ended. A copy of the questionnaire has been included in the Appendix as Appendix B

Questions 1 and 2 provided general information about the responding construction company. Questions 3 and 4 provided data about the respondents accounting functions, specifically their payroll function. Question 3 collected functionality and cost information about contracted accounting functions. Question 4

collected functionality-only data specifically about the payroll function, whether it's contracted or in-house. Question 5 collected cost data about payroll. Questions 6 and 7 collected data determining respondent interest in either an automated payroll service (question 6) or an automated payroll software product (question 7) that addresses all their payroll needs and requirements.

Sampling Methodology

The final step of a research design master plan is to identify a sampling method. This involves defining the target population, specifying a sample size, and selecting the sampling units.

The obvious target population for this research is Kansas City construction companies. More specifically, it's the companies who employ ten or more people. Companies that employ fewer than ten employees are excluded because it is unlikely they would be interested in an automated payroll service or product because of the size of their payroll. According to Contacts Influential, there are 2200 Kansas City construction companies, 450 of which have more than 10 employees.

Typically, a sample size of 5% provides a very representable sample. However, the relative small target population of this research allows for a much larger sample size. A 50% sample was chosen, equating to 225 companies.

Of the many sampling techniques available for selecting sample units, a random sample was chosen. The random method selected was to take every other company from an alphabetized list of all Kansas City construction companies employing more than ten people.

CHAPTER IV

RESEARCH RESULTS AND ANALYSIS

Results

225 surveys were mailed to the selected sample on July 1, 1987. Respondents were asked to return the completed survey by July 24, 1987. 61 of the 225 surveys were returned. This constituted a 27% return rate, which was excellent. The survey results are presented below. For each survey question, the results and their implication to the research objectives are summarized.

Question # 1

Fifty-four of the 61, or 88.5%, of the respondents indicated they employ labor union members. The primary purpose of this question was to determine what percentage of the population employed labor union members. The research was primarily oriented toward determining whether or not a market exists for a product or service that addresses payroll requirements mandated by labor unions. Therefore, the percentage of respondents who employ labor union members is significant because it forecasts the potential size of the market for the automated payroll product or

service. An 88.5% indicates that a very high percentage of Kansas City construction companies comprise the potential market.

Question #2

Question #2 provided data specific to determining the need for an automated payroll product, as opposed to a payroll service. The Kansas City construction companies that own computers would comprise the market for a software product. Twenty of 61 respondents, or 32.9%, own a computer. However, an analysis of the capabilities of their current products reveal that most possess the attributes of the product we're proposing. Table I of Appendix C identifies the percentage of respondents whose current products possess the capabilities of the proposed product by payroll function (this data was collected by Question #4 and a a more thorough presentation is provided as part of the discussion regarding #4 below).

Although the potential market for a software product is large, the data clearly demonstrated that currently available products are satisfying Kansas City construction needs. At best, only four, or 6.5%, companies from the entire sample of 61 would be potential customers. This is clearly not a market that could support the development of a software product.

Question #3

Question #3 gathered information about respondents that contract a payroll service. The respondents provided the functions (any accounting function)which were contracted and their approxi-

mate cost. It was assumed that the cost data could be useful for determining service pricing.

The collected cost data was correlated against respondent number of employees. The employee number information was available because each mailed survey had been coded to ensure respondent company name would be known. Contacts Influential provides number of employee data by company.

The correlated data is presented in Table III of Appendix C. For each payroll service, cost and number of employees is presented. The correlation between cost and number of employees could be very important in determining a pricing strategy. However, the data showed no correlation. The most expensive service, $350/month, was for the smallest category of employees, 11-25. The least expensive, $120/month, was for 26-50 employees, and a median price of $285/month was for the largest , 50-100. Again, absolutely no correlation exists, which makes this data virtually worthless for determining a pricing strategy.

Question #4

Question #4 collected data that pertained to an automated payroll service; how many respondents were currently contracting with a service, and what were the capabilities of these services. This information was useful in several ways. The first was to indicate the percentage of market already contracting with a service. Six of 61, or nearly 10%, fell into this category. This represents only a portion of the market already sold on services.

The next piece of information was, of that 10% potential market, what percentage was contracting services with capabilities equal to the proposed service. This is helpful in judging potential competition. Table II of Appendix C illustrates the capabilities of the existing services. Most of the existing services seem to have equivalent capabilities. This seems to contradict preliminary research conducted that indicated these payroll functional capabilities were not available in the Kansas City area. This is significant because it identifies strong competition for the proposed service. However, data collected from Question #7 contradicts this information. This will be discussed in the analysis of Question #7 below.

Question #5

Question #5 was also oriented toward gathering data that would be useful for a pricing strategy. The data collected was man hours per month allocated to support the payroll function. This resource data was grouped by seven categories and presented for three types of companies. One would assume the data would support several correlations. The first is that hours would increase as the level of automation decreased. This was not found to be true. The other is that hours would increase as the number of employees increased. This was also not found to be true. Therefore, the data gathered by question #5 would be useless for determining a pricing strategy.

One interesting piece of information was drawn from this data, however. The data clearly shows that more resources are

required to support payrolls that are contracted then to support payrolls that are fully automated or manual. For all but one of the seven categories of employees, hours were significantly greater for automated over the other two. The results from question #4, which indicated that most contracted services automate all payroll functions, seem to contradict the resource data. If all payroll functions are automated through a contracted service, then human resources required to support payroll should be minimized.

Questions #6 and #7

Questions #6 and #7 gathered data oriented toward determining the interest level in an automated payroll product or service. Question #6 asked the respondents who own a computer to respond yes or no to the question of whether or not they would be interested in an automated payroll product. Question #7 asked the respondents who didn't own a computer to respond yes or no to the question of whether or not they would be interested in an automated payroll service. Only three of the 20 companies who own their own computer indicated they would be interested in a product. This supports the conclusion reached by the analysis of question #2, that there isn't a market to support the development of a specialized payroll product. However, the respondents to question #7, those that do not own a computer, presented a very high level of interest in an automated specialized payroll service. Seventeen of the 41, or 41%, of the companies who don't own a computer were interested in the service. This is a very

significant percentage. Six of those companies had indicated in Question #3 that they already contract with a service. In addition, another 11 respondents (11 of the 35) indicated an interest in the service. A breakdown by size of the 17 respondents who indicated interest in a service presented in Table IV of Appendix C. It is interesting that most, 15 of the 17, or 88%, employ 50 or fewer people.

Analysis

The results of the questionnaire were presented above, question by question. The significance of the responses was noted. This section presents the overall significance of the responses, with regard to the specific objectives of the research.

The major objective of the research was to collect data necessary to determine whether or not a market exists for an automated payroll product or service unique to the Kansas City construction industry.

The questionnaire was designed to address this objective in two ways. One was to determine whether or not a market exists for an automated service. The other was determine whether or not a market exists for an automated product. The analysis is presented separately for each.

Automated Payroll Software Product

As was indicated above, 20 of the 61 respondents owned their own computer. Of those 20, only 3 expressed an interest in the software product. I think this lack of interest can be attributed to the absence of a need for such a product. From an analysis of the capabilities of the automated payrolls of those respondents, it seems that the proposed payroll product is not unique. The major selling point of the product was to be that it would correctly calculate employee state taxes for both Missouri and Kansas based upon number of hours worked in each state by the employee for a specific pay period and generate reports to document such. Sixteen of the 20 respondents who owned their own computer indicated they already had that capability with their present software. Three of the remaining 4 did express an interest in the product, however, three does not constitute a demand, especially when it is taken into consideration that questionnaires were mailed to half, or 225, of the 450 total prospective customers in the Kansas City area.

Automated Payroll Service

The most important information provided by this survey was that oriented toward determining whether or not a demand exists for an automated payroll service and/or product. Demand for product was discussed in the preceding paragraph. As for demand for service, the results definitely indicate that such a need does exist.

As the results to Question #7 indicated, of the 41 respondents that did not own a computer, 17 indicated that they would be interested in such a service. That's a very positive indication that a need for such a product does exist.

From an analysis of the capabilities of the automated payrolls which are contracted by the sample surveyed, it is not clear why the positive response rate was so high. Of the 6 respondents who do contract their payroll to a service bureau, 4 indicated that their service calculates union deductions, 5 calculate gross salary and federal taxes, and 4 calculate state taxes correctly for both Kansas and Missouri based upon the number of hours worked in each state. Most seem to have the same capabilities of the proposed service. This is inconsistent with the preliminary research conducted that indicated that NO Kansas City computer service bureau offered a service that automatically calculated and subtracted state tax deductions. This could mean that the respondents who indicated that their contracted services do have these capabilities misunderstood the question. Assuming the preliminary research conducted was accurate, their service probably subtracts the correct union deduction and state tax amounts from the gross salary but the calculations are manually done by the customer and used as input into service bureau's payroll software program. I will assume throughout the remainder of this analysis that what was reported by the respondents on this particular issue was incorrect and that what was found to be true in preliminary research was correct. Given that, the reason the

response was so positive is because there is a need for the proposed service and it is not being satisfied at present.

The remainder of the information gathered by the questionnaire is not oriented as much toward establishing a need as toward providing facts that can aid in the development of a promotional strategy for an automated construction company payroll service. This information addresses the remaining research objectives and is presented below.

Product

The need for the service, as outlined in the questionnaire, is supported by the above analysis. As to whether or not any additional automated accounting functions should be provided, the results seem to indicate that is is not necessary. Of the 6 respondents who contract with a service bureau, only 1 contracts their accounts/receivable, accounts/payable, and billing, and only 2 contract their general ledger. A small need is there but it is not significant.

Pricing

Of the 5 respondents who contract their payroll, the service fees they presently pay range from $120-$350, a substantially large range. There is no significant relationship existing between number of employees and service fee charged. This is supported by the analysis of Question #4 above.

Market

Of the 17 respondents who expressed an interest in an automated payroll service, 8 employ between 11 and 25 people, 7 employ between 26 and 50 people, 2 employ between 51 and 100 people, and none employ more than 100 people. This clearly indicates that the smaller companies are those who need a good payroll service. This is further supported by analysis of the companies who own a computer. Of the 20 who do, 7 employ between 11 and 25 people, 6 employ between 26 and 50 people, 1 employs between 51 and 100 people, 5 employ between 100 and 250, and 1 employs over 250 people. Seven out of the 13 respondents who employ more than 50 people own their own computer and only 13 of the 48 people who employ less than 50 people own their own computer. This shows that a large percentage of the bigger companies (over 50 employees) own computers whereas only a small percentage of smaller companies (less than 50 employees) own computers. This supports the above analysis by indicating that the smaller companies don't own computers and therefore would be in need of an automated payroll service.

Overall, the results of this research and the analysis of those results has provided the desired information outlined in the original objectives of the research.

The major objective of this research was to determine whether or not a market exists for either a computer software product (computer program) or a monthly computer service that would completely automate Kansas City construction companies. The results clearly indicate that a market DOES exist for a

monthly computer service and DOES NOT exist for a computer software product.

Weaknesses

The major weakness of this research pertained to the questionnaire. As has been previously indicated, the respondents provided information to Question #4 regarding the capabilities of contracted payroll services that contradicted both preliminary research and data provided by Question #7. This most likely implies that the data provided by Question #4 was inaccurate. Assuming that the respondents would not knowingly provide inaccurate date, a logical explanation is that the respondents did not understand the question. So, if the research was to be repeated, Question #4 would be rephrased to provide a more understandable explanation of what type of data the respondent was expected to provide. An example of how the question should be completed would be included.

Although this was a weakness of the research, it wasn't significant. The major objectives were still addressed by the data collected. However, if question #4 had collected more accurate data regarding existing payroll services, a better, more thorough analysis of the competition could have been proposed. This would have provided more valuable input for a promotional strategy.

CHAPTER V

SUMMARY AND CONCLUSIONS

Chapter 4 presented the results of the survey, the importance of those results, a thorough analysis of what those results mean, and an explanation of how those results contributed to the overall objectives of the research. This chapter presents a summary of what was gleaned from those results and the conclusions that can be reached based upon those results.

First, the results of the survey should accurately reflect the situation that presently exists in the construction industry. Half of the prospective clients in the Kansas City area were mailed questionnaires. Of those 225, a very representable 27% responded.

The information provided by the 61 respondents supplied critical data necessary to understand the construction company payroll situation that exists in Kansas City. This includes man hours devoted to payroll-related activities, level of automation of these activities, and the complexity of that automation. Chapter 4 presented the detail of the data collected and its significance.

The most important finding revolved around the basic objective objective of this research, whether or not a need exists for a completely automated payroll software product or service. The results indicate that a need exists for an automated service and it exists among the smaller Kansas City construction companies.

Overall, this research indicates that there is a need for a totally automated construction payroll service, it indicates where the need exists, and provides detailed information about those that need the service.

Generally, the accomplishments of this research project were very good. The success of the project was dependent upon the vehicle used to collect the required data, the direct mail questionnaire. The questionnaire was designed to meet three objectives. One was to ask the questions necessary to collect information which would be useful in determining whether or not a need exists for a completely automated construction company payroll product or service. The second was for the questionnaire to be short, concise, easy to understand, and require very little time to fill out so as to enhance the probability for response. The third was to include a cover letter that would generate enough interest so that the respondent would complete and return the questionnaire.

To successfully accomplish the above objectives was a formidable task, task, but the questionnaire and cover letter, prepared and mailed to local Kansas City construction companies, successfully accomplished those objectives. Both the response

rate and the information gathered in the survey supports such a statement.

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APPENDICES

APPENDIX A

MARKET SURVEY COVER LETTER

July 1, 1987

Due to the uniqueness of your industry and its geographic location, very often an employee may be assigned to work on jobs in both Missouri and Kansas during one pay period. When this occurs, the employee is liable for payment of state taxes to both states based upon the number of hours worked in each state. Furthermore, companies who employ individuals who are members of a Missouri labor union are required, by the union, to deduct state taxes accordingly and prepare monthly reports documenting such.

As a graduate business student at Oklahoma State University, I am interested in determining whether or not a market exists for either a computer software product or a monthly computer service that would completely automate your payroll process, including correctly calculating state taxes and union deductions, and be capable of printing monthly summary reports to satisfy union requirements. I am aware that existing available computer software or services cannot perform these functions.

I have selected only premier Kansas City construction companies to participate in this market survey. I realize the importance of your time and have designed the attached questionnaire so that it can be quickly and easily filled out. The information

you provide will be used only in statistical totals to ensure confidentiality.

It would be greatly appreciated if you would complete the attached questionnaire and return it in the enclosed addressed stamped envelope by July 24, 1987. If you would like to have a copy of the survey results, please send your request separate from the questionnaire to the following address:

Chris Foltz

9415 Lee Blvd.

Leawood, KS 66206

Thank you for your help in this important matter.

Sincerely,

Chris Foltz

APPENDIX B

MARKET SURVEY

1. Does your company have anyone on the payroll that is a member of a labor union? YES_____ NO_____

2. Does your company own a computer? YES_____ NO_____

   If NO, skipto question #3.

   If YES, specify what type:

   VENDOR_____

   MODEL_____

3. Does your company contract with a data processing service company? YES_____ NO_____

   If NO, skip to question #4.

   If YES, specify below which business applications are contracted and the approximate MONTHLY COST for each.

   out and the approximate MONTHLY COST of that application.

	CHECK IF CONTRACTED	APPROXIMATE MONTHLY COST
PAYROLL	_____	$_____/MONTH
ACCOUNTS RECEIVABLE	_____	$_____/MONTH
ACCOUNTS PAYABLE	_____	$_____/MONTH
BILLING	_____	$_____/MONTH

GENERAL LEDGER _____ $_____/MONTH

OTHER (specify)

_____ _____ $_____/MONTH

_____ _____ $_____/MONTH

4. Answer ONLY if your company's payroll is done by computer, whether in-house or contracted.

Specify what capabilities the automated payroll has. Check as many as are appropriate.

_____ CHECK WRITING

_____ CALCULATE GROSS SALARY

_____ CALCULATE FEDERAL TAXES

_____ CALCULATE ALL REQUIRED UNION DEDUCTIONS

_____ CALCULATE STATE TAXES

If it does calculate state taxes, does it

_____ CALCULATE STATE TAXES ONLY FOR STATE IN WHICH COMPANY IS LOCATED

_____ CALCULATE STATE TAXES FOR BOTH MISSOURI AND KANSAS BASED UPON NUMBER OF HOUR EMPLOYEE WORKED IN EACH STATE FOR THE PAY PERIOD

5. Approximately how many MAN HOURS PER MONTH is spent on payroll related activities, whether or not your payroll is automated.

_____ MAN HOURS/MONTH

6. Answer ONLY if your company DOES own a computer.

Would your company be interested in a software product (computer program) that would correctly calculate state taxes for both Missouri and Kansas according to hours worked in each state for the pay period and correctly calculate all required union deductions (ASSUME THAT YOUR COMPANY COULD COST JUSTIFY SUCH AN EXPENSE)?

YES_____ NO_____

7. Answer ONLY if your company DOES NOT own a computer.

Would your company be interested in a computer service that would correctly calculate state taxes for both Missouri and Kansas according to hours worked in each state for the pay period and correctly calculate all required union deductions (ASSUME THAT YOUR COMPANY COULD COST JUSTIFY SUCH AN EXPENSE)?

YES_____ NO_____

APPENDIX C

TABLES OF SELECTED SURVEY RESULTS

TABLE I

IN-HOUSE AUTOMATED PAYROLL CAPABILITIES

Payroll function	Total Respondents	Respondents With Capability	Percentage
Checkwriting	20	18	90
Gross pay calculation	20	19	95
State tax calculation (for one state)	20	19	95
Federal tax calculation	20	19	95
Union deduction calculation	20	19	95

TABLE II

EXISTING PAYROLL SERVICE BUREAU CAPABILITIES

Payroll Function	Respondents	Respondents With Function	Percentage
Checkwriting	6	5	83
Gross pay calculation	6	5	83
Federal tax calculation	6	5	83
Union deduction calculation	6	5	83
State tax calculation (for only one state)	6	5	83
State tax calculation (for two states)	6	4	67

TABLE III

CONTRACTED PAYROLL SERVICE COSTS PER COMPANY SIZE

Size of Contracting Company	Cost of Service
11-25	$250.00
11-25	$350.00
26-50	$120.00
26-50	$175.00
51-100	$285.00

TABLE IV

MANPOWER RESOURCES FOR COMPANIES CONTRACTING PAYROLL SERVICE

	MAN HOURS PER MONTH						
NUMBER OF:	0-10	11-20	21-30	31-50	51-70	71-100	100+
Companies that own their own computer and have an in-house automated payroll	3	7	1	3	1	2	3
Companies that contract their payroll with a service bureau	8	6	6	9	3	2	3
Companies that have completely manual payroll	2	1	0	1	0	1	0

VITA

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