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AUTHOR Lanser, Michael A.
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ABSTRACT

A study examined the marketing research information required by those executives of Lakeshore Technical College (Wisconsin) whose decisions affect the college's direction. Data were gathered from the following sources: literature review; development of a data dictionary framework; analysis of the college's current information system through interviews with the four executive committee members; identification of ideal information requirements; and comparison of those requirements and the college's existing information requirements. Forty-four information requirements related to information use, system expectations, success criteria, and information needs were identified. Because only two of the college's current market research reports satisfied approximately 50% of the identified information requirements, it was concluded that the college's currently available market research information does not meet the information needs of the college's executives. It was recommended that the college continue developing a data dictionary and integrating market research information and adopt a new process for determining information needs. Appended are the following: diagram of the Lakeshore Technical College System of Education's components; data dictionary component definitions; agenda for current analysis interviews; current analysis data capture form; agenda for requirements planning meeting; abbreviations made to prioritized statements; and responsibilities to information needs matrix. Contains 18 references. (MN)

EVALUATION OF THE EXECUTIVE INFORMATION REQUIREMENTS FOR THE MARKET RESEARCH PROCESS

Database Management Systems

Michael A. Lanser

Lakeshore Technical College

Susan A. Torbenson

Chicago Cluster

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by

Michael A. Lanser

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Market research and analysis is a core process in the Lakeshore Technical College System of Education. It was not known if the research information requirements of executive users were being met and a process did not exist for identifying information requirements. The purpose of the study was to evaluate the research information requirements of executive staff who were selected because of the impact their decisions have on the direction of the college.

Research questions addressed ideal information requirements, information currently available, comparison of ideal to current requirements, and recommendations. Six procedures focused the study including (a) a literature review, (b) development of a data dictionary framework, (c) analysis of the current information system, (d) identifying ideal information requirements, (e) comparing current and ideal requirements, and (f) executive approval.

Results found that 44 information requirements were identified related to use of information, system expectations, success criteria, and information needs. Furthermore, only two current report satisfied around 50% of the requirements. Based on the results it was concluded that the current information available does not meet the executive information needs

and that only two of the current reports were able to satisfy the needs. Also, the existing database is capable of meeting the requirements, however, access needs to be improved and an overall system developed.

Recommendations included the continued development of the data dictionary and an integrated market research information system. Finally, the process to determine information requirements should be adopted institutionally.

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Chapter 1

INTRODUCTION

Lakeshore Technical College (LTC), one of Wisconsin's 16 Technical Colleges and part of the Wisconsin Technical College System (WTCS), operates under a shared governance concept with the state and local boards equally responsible for setting and administering policies. The college offers associate degree and technical diploma programs, and adult and continuing education courses. Lakeshore Technical College is accredited by the North Central Association of Colleges and Schools (NCA). The college received its most recent ten-year accreditation from North Central in 1992.

The college serves a diverse customer market and has identified four market segments including (a) high school graduates, (b) employed adults seeking upgrade training, (c) unemployed adults entering or reentering the workforce, and (d) employer requested training. High school graduates were considered to be the traditional market and therefore, systems and processes were designed to meet their needs. In recent years the college has experienced a shift from the traditional high school graduate market to the employed adult and employer requested training markets. Lakeshore Technical College has recognized this shift and has adopted strategies to guide the organization as it responds to the shift. Flexibility and accessibility of systems and services in meeting the needs of all the customer markets are necessary if the college is to remain competitive.

Market information is crucial if programs, courses, and services are to be designed to meet the needs of the changing marketplace. Over the years Lakeshore Technical College has accumulated a significant amount of student, staff, financial, and course data. This data is used by staff for a variety of purposes including planning and market research. Additionally, a

strategic planning process was implemented that resulted in setting strategies and objectives geared toward serving specific customer markets. This has created a need for market research information that did not exist before.

Nature of the Problem

The problem was, that it was not known if the market research information requirements of executive users were being met. Market research and analysis is a component of the LTC System of Education (see Appendix A). A process did not exist for identifying the information requirements of users in general. This resulted in frustration on both the part of technical staff and the users. Users claimed that technical staff did not understand their information needs and similarly the technical staff claimed that users were not telling them what information they wanted or needed. Furthermore, different users had different needs. Additionally, the LTC computer network links together several different hardware and software platforms which create additional challenges related to staff accessibility and exchange of information. The executive users are the four members of the LTC Executive Committee, who include the President, and the Vice Presidents of Instructional Services, Enrollment Management, and Educational Support.

Purpose of the Study

The purpose of the study was to evaluate the marketing information requirements of the executive staff at LTC. Executive staff members were chosen as the population because of the impact their decisions have on the overall direction and operations of the college. The identification of marketing information requirements means identifying what the executive users are currently using for marketing information, identifying what their ideal needs are and then comparing the ideal needs to what is currently being used. Any gaps between what is currently being used and the ideal needs can provide direction for future systems development.

Significance to the Institution

Information is an organizational resource and understanding executive information requirements is the first step in designing an information system that provides the information needed to make strategic decisions and monitor the performance of the organization. Limited resources available to support programs, courses, and services makes it more important than ever to make the right educational delivery decisions. The result of making the right decisions is improved student enrollment and customer satisfaction.

Relationship to the Seminar

This study is directly related to the Data Base Management Systems seminar because it will address the evaluation of information requirements which are critical in database design. There are two types of databases -- transactional and analytical. Vaskevitch (1995) discusses the difficulties in getting information out of a transactional database. Additionally, he goes on to indicate that analytical databases are more suited to user interaction and for users to query. Vaskevitch also stresses that it is important that transactional and analytical databases be linked so that decisions are made on the most recent data (pp. 247-257).

Research Questions

There were four research questions for this study. First, what are the ideal market research information requirements of the Executive Committee? Second, what market information is currently available to the Executive Committee? Third, how do the ideal market information requirements compare to the information currently available to the Executive Committee? And fourth, what are the recommendations for obtaining information that meets the Executive Committee information requirements?

Definition of Terms

The following terms are related to this study and are being defined for further clarification:

Analytical Database. A database used to analyze patterns in a business environment. The information is used for comparison purposes, therefore, may not be up to date.

Data. Raw facts represented by numbers, letters, or graphics.

FTE. Full time equivalent

Information. Data that has been transformed that has meaning to a user.

Market Research. Market research is the process of gathering information on various customer markets and on the competition for decision making.

PVA/PPP. Program Value Analysis/Program Prioritization Process.

Technical Staff. Persons responsible for information system development.

Transactional Database. A transactional database handles the transaction processing requirements of an organization and usually contains up-to-date information.

Users. Persons who use information systems to perform their job.

WTCS. Wisconsin Technical College System.

WTCSB. Wisconsin Technical College System.

Chapter 2

REVIEW OF RELATED LITERATURE

A review of literature in the areas of information systems, marketing information systems, systems analysis and design, database, and groupware was conducted. Information from the literature review was used in the design of the study.

Information Systems

Licker (1987) defines an information system as a collection of elements that exchange data with one another and with the environment" and that the value of an information system lies in its ability to transform source data into information" (pp. 28-29). According to Dolence and Norris (1995) a symptom of the information explosion is the . . . increasing importance to continually synthesize vast amounts of information (p. 26). Information systems can help people search, select and synthesize information to create knowledge. (Dolence & Norris, 1995, p. 26).

Components

Information systems are made up of a number of components. Ross (1994) has identified six categories of information system components including: (a) hardware, (b) software, (c) data, (d) communications, (e) people, and (f) procedures (p. 58). Although similar, Licker (1987) listed only five categories: (a) hardware, (b) data, (c) people, (d) programs, and (e) procedures (p. 27). Hoffer, George, and Valacich (1996) identified three key components of every information system and suggests that anyone who analyzes or designs systems should understand them. Those components include data, data flows, and processing logic (pp. 9-10).

Types of Systems

Modell (1996) suggests that information systems can be generally classified into two types: operational and informational (p. 33). According to Modell (1996) "operational systems are characteristically transaction-based and cyclically processed as opposed to information systems which are broader-based, more horizontal in nature, and usually arise from the operational files of the firm (Modell, 1996, p. 34). A third type of system which is both horizontal (informational) and vertical (operational) in nature is classified as an administrative system (Modell, 1996, p. 34).

Hoffer, George, and Valacich (1996) are more specific in their classification of information systems. They identify four classes of information systems which are transaction processing systems, management information systems, decision support systems (for individuals, groups, and executives), and expert systems and provide the following description:

> Transaction processing systems (TPS) automate the handling of data about the business activities or transactions. A management information system (MIS) takes the relatively raw data available through a transaction processing system and converts them into meaningful aggregated form that managers need to conduct their responsibilities. Decision support systems (DSS) are designed to help organizational decision makers make decisions. A DSS is composed of a database (which may be extracted from TPS or MIS), mathematical or graphical models of a business processes, and user interface (or dialogue modules) that provides a way for the decision maker, usually a nontechnical manager, to communicate with the DSS. An expert system (ES) attempts to codify and manipulate knowledge rather than information. (pp. 20- 22)

Marketing Information Systems

Marketing has been defined as an activity directed at satisfying needs and wants through the exchange process consisting of a number of different activities including: product development, research, communications, distribution, pricing and service (Marketing and Marketing Research Resources). Kotler (1983) describes a marketing information system as a continuing and interacting structure of people, equipment, and procedures to gather, sort,

analyze, evaluate, and distribute pertinent, timely and accurate information for use by marketing decision makers to improve their marketing planning, execution, and control" (p. 55). The marketing information system is made up of four subsystems that help organizations identify and analyze trends. Those subsystems include: the internal reports system, market intelligence system, marketing research system, and analytical marketing system" (Kotler, 1983, p. 55). According to Li (1997):

> The role of Marketing Information System (MKIS) is to assist the manager in decision making activities and makes it possible for a firm to react more quickly to the customer's needs. It allows the manager to follow up on how well the needs have been met. This feedback information is then used to modify, improve, or delete products and services which in turn increases the efficiency and effectiveness of the firm's operations and improve its competitive edge. (p. 27)

Li (1997) explains that "many marketing managers associated their marketing information system with reports, data/file retrieval, or different managers' information needs" (p. 30). Additionally, he states that the most popular definition of MKIS is:

> . . . a group of subsystems (some gather data, and some process it). The data gathering subsystems are marketing research, marketing intelligence, and internal accounting/data processing. The processing subsystems produce information about the major marketing activities (product, price, distribution channels, and promotion). (Li, 1997, pp. 30-31)

Information for the marketing information system can come from a variety of sources. Lis (1997) research identifies the three most common sources of marketing information in an organization as: internal accounting/data processing, marketing research, and marketing intelligence. Li (1997) reports that:

> . . . Internal accounting/data processing function, which provides marketing managers with the data about the firm's operations and its existing customers, was regarded as the most important source of MKIS information by 54% of the 72 respondents. Marketing intelligence (31.9%) and marketing research (13.9%) functions followed in sequence but were not as much as expected. These two functions give managers the data about potential customers, competitors, governments, and national economy. (p. 31)

External analysis is another source of marketing information. Morrison (1997) reports that "a number of external analysis methods developed in the futures research community could serve as transformation tools for educational organizations, including environmental scanning, issue management, vulnerability and opportunity assessment, and scenario planning" (p. 3). These methods assist an organization in gathering information on its customers and on the environment. Designing systems to support an organizations marketing needs is very important. According to Moriarty and Moran (1990) a company that designs and manages its system strategically will achieve a powerful advantage over rivals that add channels and methods in an opportunistic and incremental manner" (p. 154).

Systems Analysis and Design

Systems analysis and design begin with the identification of customer needs to determine requirements. Requirements planning is primarily a fact finding activity where customer needs are being identified (Hoffer, et al. 1995, p. 271). Multiple customers may exist and it is important to know who they are and what their needs are. In order to identify customer requirements there needs to be an understanding of customer needs (Frame, 1994, p. 98). Moen and McClure (1996) were awarded a contract for by the United States Government to determine the extent to which the Government Information Resource Locator Service (GILS) was meeting the expectations of users. A variety of methods were used to collect data and the analysis resulted in an understanding of the extent to which GILS was serving various users as well as identifying success factors.

According to Hoffer, George, and Valacich (1995), "the challenge of most organizations is to design comprehensive information models containing data that are relatively independent from the languages and programs used to access, create, and update them" (p. 201). In other

words, original or legacy systems were designed to process transactions efficiently -- not to provide information to users about customer groups. It supports the importance of a systems design that follows a planned approach in order to meet the needs of the organization rather than just a small group or process. A key question that needs to be answered when designing the system is "What information (or data) requirements will satisfy the decision-making needs or business processes of the enterprise today and well into the future" (Hoffer et al., 1995, p. 201)?

Prototype

One way to facilitate the identification of customer requirements is a process known as rapid prototyping. Rapid prototyping is a process that relies on the involvement of customers in the development of requirements and then having them react to prototypes so they can see what they will get (Frame, 1994, pp. 59-60). This process gives the customer something tangible so that they can see, think about, and respond to the prtotype as it is being developed which can reduce the rework involved in a project. Hofer, George, and Valacich (1995) describe the prototype development process in the following way:

> Designing and building a scaled-down but functional version of a desired system is the process known as prototyping. Using prototyping as a development technique, the analyst works with users to determine the initial or basic requirements for the system. The analyst then quickly builds a prototype. When the prototype is completed, the users work with it and tells the analyst what they like and do not like about it. The analyst uses this feedback to improve the prototype and takes the new version back to the users. This interactive process continues until the users are relatively satisfied with what they have seen. Two key advantages of the prototyping technique are the large extent to which prototyping involves the user in analysis and design and its ability to capture requirements in concrete, rather than verbal or abstract, form. (p. 29)

Advantages of the prototype process such as greater involvement of the users and reduced development time, can be very beneficial when working with executive users. Executive users use of computer systems is growing and they have a need for timely information and analysis (Rockart & Treacy, 1982, p. 83). Problems exist with defining exactly what data

the chief executive (or any other general manager) needs" (Rockart, 1979, p. 82). Rockert (1979) reports that a method called the critical success factor approach has been used successfully to determine the information needs of executive users.

> The MIT research team's experience in the past two years with the critical success factors (CSF) approach suggests that it is highly effective in helping executives to define their significant information needs. Equally important, it has proved efficient in terms of the interview time needed to explain the method and to focus attention on information needs. (pp. 84-85)

Executive Information Systems

Executive information systems (EIS) are systems that provide executive users access to the information they need. "All EIS systems share a central purpose, a common core of data, and a support organization" (Rockart & Treacy, 1982, pp. 83-85). The common core of data, or the database is a core component of the executive information system.

According to Carter (1995), "one of the main contributions that the installation of a large shared database management system (DBMS) makes to an organization is to encourage it to consider its data as a resource which is central to its operations and decision making" (p. 1). If the data is to be used as a resource, the database must be designed to allow accessibility by users. The word database has three meanings (Vaskevitch, 1995, p. 236). First it serves as a repository of data. Second, it provides tools that individuals need to retrieve and analyze information. And third, it provides a conceptual model of how the business works. How successful a business is at developing a useful conceptual model will determine its level of success at building a useful database (Vaskevitch, 1995, p. 237).

From a users perspective, a database is a collection of tables or files. The terms table and file are interchangeable, as are the terms field and column. Each table contains

records which contain fields. The database provides a certain organization to data that enables users to interpret the records (Vaskevitch, 1995 p. 28).

Relational Database

The relational database model describes data using a notation which corresponds to a data organization used by a database management system (Hoffer et al., 1996, p. 554). Hofer (1996) describes a relation in the following manner:

> A relation is a named, two-dimensional table of data. Each relation (or Table) consists of a set of named columns and an arbitrary number of unnamed rows. Each column in a relation corresponds to an attribute of that relation. Each row of a relation corresponds to a record that contains data values for an entity. (Hoffer et al., 1996, p. 557)

A table is nothing more than a set of rows and columns, and is commonly used to keep information in an organized format. In a relational model each row contains data that describe one attribute of that object or process (Saunders, 1992, p. 21). Information accessed from a database once analyzed is often shared or sent to someone for action or follow-up. Many companies are using technology to facilitate the sharing of the information between two or more people.

Data Dictionary

A tool that helps companies and employees find the information they are looking for is called a data dictionary. The data dictionary provides descriptive information on data elements or reports to help users locate needed information.

> A data dictionary is an automated tool for collecting and organizing the detailed information about system components. Data dictionaries maintain facilities to document data elements, records, programs, systems, files, users, and other system components. A data dictionary will also have facilities to cross-reference all system components to each other. (Modell, 1996, p. 119)

A data dictionary provides a mechanism for a company to establish a single operational definition for each data element and cross reference the definitions. Cross referencing enables

one description of a data item to be stored and accessed by all individuals (systems analysts and end users) so that a single definition for a data item is established and used (Hoffer, George, & Valacich, 1996, p. 158) . This eliminates duplication and provides a common understanding of information in the system.

Hoffer, George, and Valacich (1996) identify six components typically found in a data dictionary:

1. Element name and any aliases.
2. Textual description of the element.
3. List of related elements.
4. Element type and format.
5. Range of acceptable values.
6. Other information unique to the proper processing of this element. (p. 158)

Developing a data dictionary evolves over time. All the information may not be known initially. According to Licker (1987):

> It is not necessary (or always possible) to describe each data item completely. Most of the physical information will be added later, during physical design. However, name(s), address, form, type, and access are logical characteristics, important during logical design." (p. 473)

Groupware

"Groupware is a set of technologies intended to improve the productivity of two or more workers cooperating to achieve common goals" (Gibb, 1995, pp. 73). The concept of groupware is vaguely defined but generally involves applications that help a group of users exchange task-related information and manage work flow and usually provides electronic mail, calendaring, shared databases, and work flow support services (Gibb, pp. 296-298). Groupware "enables us to go beyond traditional time and motion studies to reengineer business processes and refocus organizations around the business team" (Tapscott, 1993, p. 41).

> The old work model --everyone sitting at a PC, duplicating everyone else's work and shooting messages from point A to point B --is holding us back. Applications suited to

> work patterns of the group can eliminate wasted effort by taking advantage of work already completed. At the same time, we can have instant access to just the information we need to make better decisions, plot better strategies, and call fewer meetings. (Kaplan, Lauriston, & Fox, 1992, p. 209)

Electronic Meeting Support

Electronic meeting support software is a groupware application that facilitates interaction and collaboration using technology. Kranz and Sessa (1994) report that in addition to saving time and improving participation the software produces additional benefits over traditional meetings.

> They are better-planned and stay on task because an agenda is a integral part of the electronic process; they create a wider range of alternatives for consideration; they provide the ability for the group to measure and move toward consensus and commitment at all times; they produce a stronger commitment to solutions; and they create meetings that are fully documented with computer-generated printouts available during and after the meetings. Uses for electronic meeting software are as varied and creative as the organizations that employ them: Strategic planning, total quality management facilitation, and community planning are but are a few. (Kranz & Sessa, 1994, p. 207)

Groupware Application

Perreault and Moses (1992) conducted a study that compared students using groupware to complete a writing assignment with students using face-to-face meetings to complete the assignment. No significant differences were found between the groups (Perreault et al., 1992, p. 163). They did conclude, however, that student perceptions for ease, speed, and convenience were more positive for face-to-face meetings (Perreault et al., 1992, p. 162).

Groupware is being used in a variety of ways at colleges and universities (Watkins, 1992, p. A22). Georgetown University uses computer conferences to select job candidates for interviews. San Diego State University uses electronic meetings to conduct simulated negotiation sessions in management classes. Gallaudet University uses electronic meeting technology for students to identify topics for compositions. Additionally, "studies conducted by the University

of Arizona and International Business Machines (IBM) have shown that electronic meetings take 55% less time than traditional meetings" (Watkins, 1992, p. A22).

Summary

Information systems are comprised up of different components and differ in type. Typical components of an information system are hardware, software, data, procedures, and people. Two broad classifications separate information systems, (a) operational and (b) informational. Operational systems provide information to run the business and informational systems provide information to people to make decisions. Marketing information systems are considered informational because they provide information to marketing decision makers.

The determination of customer requirements is a key first step in designing an information system. A key challenge in designing information systems is to transform the data collected from the organizations transaction processing systems into information usable for decision-making. To accomplish this systems designers must work closely with the users of the information system.

Executive information systems are included as a type of information system because they are specifically designed to provide high level information to people at the executive and management level for decision-making purposes. Another technology called groupware enables users to electronically collaborate with other users on the information obtained through the executive information system.

Chapter 3

METHODOLOGY AND PROCEDURES

Procedures

This study followed the evaluative problem solving methodology. Six procedures were used to complete the study.

First, a review of the literature was conducted. Topics reviewed included information systems, marketing information systems, systems analysis and design, database, and groupware.

Second, a framework for a data dictionary was developed to maintain specific information on the information requirements that are identified (see Appendix B). A data dictionary is an automated tool for collecting and organizing the detailed information about system components (Modell, 1996, p. 119). The Data Processing Systems Manager, the Systems Analyst, the Research Assistant, and the Administrator of Educational Support identified the components of the data dictionary using the six components identified by Hoffer, George, and Valacich (1996) as a guide. The data dictionary provided a framework for recording descriptive data on reports, data elements, and files that were identified in the project. The elements and their definitions are listed in Appendix B. A form to facilitate the capture of the data based on the elements was designed by the Research Assistant and validated by the Data Processing Systems Manager and the Administrator of Educational Support.

Third, an analysis of the current information system situation was conducted. The information systems planning (ISP) model discussed by Hoffer, George, and Valacich (1996) was used to collect the data.

> During ISP you must model current and future organization informational needs, and develop strategies and project plans to migrate the current information systems and technologies to their desired future state. ISP must look at information systems and

technologies in terms of how they help the business achieve its objectives defined during corporate strategic planning." (p. 205)

Data were gathered through an interview of each member of the Executive Committee. Each Executive Committee member was interviewed at an individual session. The Vice President of Educational Support and the Data Processing/Systems Manager conducted each of the sessions. The same agenda (see Apendix C) was used for each session. Each Executive Committee member was asked to identify the report or information item used, what they did with the report or information, the frequency of use, and who they shared the report or information with. The responses were captured on a form (see Appendix D). A copy of each item identified was obtained and a data dictionary entry made.

Fourth, the ideal information requirements of the Executive Committee were identified resulting in a list of the requirements. The initial draft of the questions and the agenda for the session were based on questions suggested by Poe (1996, p. 109-110) and developed by the Vice President of Educational Support. The questions and agenda were reviewed by the Administrator of Research and revised based on the input. The list of the questions and the agenda is included in Appendix E. The session was conducted in the Electronic Meeting Room at LTC. Each agenda item was structured around a question and followed a sequence of activities that included brainstorming, categorization, and prioritization.

Group Systems V, version 1.1 meeting management software was used to capture the responses and prioritize the information requirements. Group Systems software contains a suite of meeting support tools and a survey tool and is marketed by Ventana corporation in Tucson, Arizona. Group Systems Survey runs on a local area network and can be accessed by anyone using the network. A separate program exists for those not on the network for use on their PCS. The software can be used to facilitate focus group sessions. Participants can respond at length to

open-ended questions with anonymity. According to PC Magazine "Group Systems V, has the richest set of tools for running same-time, same-place, electronically enhanced meetings, as well as equally strong support for meetings held across a network and those held at different places and different times" (Kranz & Sessa, 1994, p. 206).

A three step procedure was followed for each question that included (a) brainstorming responses, (b) grouping like responses, and (c) prioritizing responses. First, a brainstorm session was held, using the Group Systems categorizer tool, where each member of the Executive Committee responded to the question. Second, like items were grouped by the Executive Committee. This was done by consensus by examining all the responses, discussing similar ones and then combining like responses under a response that was agreed upon to best represent the other items. Third, the responses were prioritized by the Executive Committee using the vote tool in Group Systems. Each member could vote for ten items from all the responses for a given question. After all votes were cast they were electronically tallied and the items listed in descending order of votes. The responses with two or more votes were selected as the priority responses for the question. This procedure was repeated for each question.

Fifth, the ideal information requirements identified in step four were compared to the reports identified in step three. This was done by developing matrix listing the prioritized requirements on the horizontal axis and the reports on the vertical axis. Before constructing the matrix, the priority responses were revised using correct grammar and wording by the Vice President of Educational Support. The revisions were then reviewed by the Data Processing/Systems Manager. The prioritized information requirements were correlated against the identified reports (Hoffer, George, & Valacich, 1996, pp. 211 - 214) and an X was placed at the requirements/report intersection for those information requirements being met by an

existing report. A table was prepared listing the original and the modified response next to each other in case questions were raised later on the revision (see Appendix F). The matrix was constructed with the executive information requirements listed on the horizontal access and information currently available and being listed on the down the vertical axis.

Sixth, the results were presented to the Executive Committee for discussion and approval. After some discussion the Executive Committee approved the information requirements. The information requirements were incorporated into the LTC Information Technology Plan as the basis for designing the marketing information system.

Assumptions

It is assumed that the Executive Committee has the background and knowledge to validate the market research information requirements. It is also assumed that the market research information requirements identified by the Executive Committee represent the broad information requirements of the college. It is further assumed that the matrix technique used to compare the information requirements to the information available is a valid method for analyzing the data.

Limitations

The study had the following limitations. First, the study was limited to information requirements applicable to Lakeshore Technical College. Another limitation is that only the information requirements of the Executive Committee were evaluated. A further limitation was that the study only focuses on market research information requirements.

Chapter 4

RESULTS

A review of the literature was conducted. Topics reviewed included information systems, marketing information systems, systems analysis and design, database, and groupware.

Basically there are two types of information systems, (a) operational and (b) informational (Modell, 1996, p. 33). The distinction between the two is that operational systems are transaction based and informational systems arise from the operational files to provide information to users (Modell, 1996, p. 34.). Marketing information systems are a continuing and interacting structure of people, equipment, and procedures to gather, sort, analyze, evaluate, and distribute pertinent, timely and accurate information for use by marketing decision makers to improve their marketing planning, execution, and control and is made up of four subsystems including the internal reports system, market intelligence system, marketing research system, and analytical system (Kotler, 1983, p. 55). In researching marketing information systems, Li (1997) found that most managers associated their marketing information systems with reports, data/file retrieval, or different managers information needs (pp. 30-31). Additionally, they regarded data from internal sources as the most important source of marketing information followed by marketing intelligence and marketing research (Li, 1997, p. 31).

Identifying customer needs is the first step in designing a system and this step should follow a planned approach (Hoffer, George, and Valacich, 1995, p. 201). Prototyping is a process that can be used to assist in identifying customer requirements by providing the customer something tangible to react to during the process(Frame, 1994, pp. 59-60).

Executive and management staff in an organization are key users of an information system. Their decisions tend to impact the overall direction of the organization. Systems

designed to meet their information needs are called executive information systems. These provide executive and management users access to a common core of data (Rockart & Treacy, 1982, pp. 83-85).

Following the review of literature a data dictionary format was developed to maintain specific information on the reports and information requirements that are identified. The review of literature and discussion of the project with the Data Processing/Systems Manager, the Systems Analyst, and the Research Analyst resulted in the identification of six components of the data dictionary including -- type, name, number, description, source, and notes. A description of the data dictionary components and a copy of the form can be found in Appendix B. The data dictionary was validated by the Data Processing/Systems Manager and the Vice President of Educational Support. The data dictionary was used to record descriptive data on the reports that were identified in step three of the procedures which was to determine what information is currently being used by the Executive Committee. The data dictionary was also used to gather descriptive information on the responses to question four in step four of the procedures which was to determine the ideal information needs. The form used to gather information on the information requirements was modified to gather information on frequency of reporting (see Appendix B). Data dictionary entries were recorded in Word Perfect a word processing software package.

The information that the Executive Committee was currently using in decision-making was identified. This was accomplished by interviewing each member of the Executive Committee and looking at hard copy reports, computer menu options, and computer query screens. A format was created by the researcher and the Data Processing/Systems Manager to

capture the data (see Appendix C). The format was designed to capture the name of the report or query screen, what it was used for, the frequency of use, and who is the information shared with.

Table 1

Current Analysis Information Results

	Hard Copy Number / Percent	Computer Number / Percent	Total Number / Percent
Internal	10	2	12 60%
External	7	1	8 40%
Total	17 85%	3 15%	20

Twenty items were identified as containing data currently being used to access market research information. Sixty percent of the items or 12 were generated from internal sources and 40 percent or eight originated from external sources. Eighty-five percent of the items were in hard copy format and three of the reports or 15% were accessible via the computer. Seventeen of the 20 reports, or 85%, were in hard copy format and the other 3, or 15% were accessible via the computer. Data dictionary entries were completed for each report. Table 1 summarizes the data.

The ideal information requirements of the Executive Committee were identified and prioritized using Group Systems Electronic meeting software and followed a three step process centered around four questions (see Appendix E). First, responses to each question were brain stormed. Second similar responses were grouped together and third, the responses were prioritized by voting. The questions were related to Executive Committee use of market information, expectations of a market research and analysis system, criteria for success, and ideal information needs. Four members of the Executive Committee participated in the identification and prioritization included the Vice Presidents of Enrollment Management, Instruction,

Educational Support, and the Administrator of Research. For each question each Executive Committee member was given 10 votes that were cast and electronically tallied.

Table 2

Ideal Requirements Responses

Question	Total Responses	Requirements	Percent
1. Use of Market Information	28	14	50%
2. System Expectations	26	14	54%
3. Criteria for Success	18	6	33%
4. Ideal Requirements	38	10	26%
Total	110	44	40%

It was agreed upon by the Executive committee that any response receiving the vote of two or more Executive Committee members would be selected as the information system requirements for a particular question. The results, summarized in Table 2, show that a total of 110 responses were elicited and 44, or 40%, were selected as requirements. A total of 28 responses were elicited for question one related to the executive committee use of market information and 14 of the responses were selected as requirements. There were 26 responses to question two and 14 were chosen as requirements. Question three had 18 responses and 6 were selected as requirements and question 4 elicited 38 responses and 10 chosen as requirements.

Question one related to the use of market information by members of the Executive Committee. Selecting target markets was the only requirement that received the votes of all Executive Committee members. Five requirements received three votes each and the remaining eight received two votes. Table 3 lists the requirement and the number of votes received.

Table 3

Question 1: Use of Market Information

Information Requirements		Votes
1.	Select target markets	4
2.	Make program decisions	3
3.	Measure accountability	3
4.	Monitor demographics	3
5.	Support innovation	3
6.	Represent the college	3
7.	Set Goals	2
8.	Determine service level	2
9.	Understand the competition	2
10.	Determine community needs	2
11.	Set pricing strategy	2
12.	Provide college leadership	2
13.	Make delivery decisions	2
14.	Determine resource viability	2

Question two related to expectations of a market research and analysis system and had 14 requirements identified (Table 4). Two of the requirements had four votes including accurate and timely information and database compatibility. Two requirements had three votes and the remaining requirements had two votes.

Table 4

Question 2: System Expectations

Information Requirements		Votes
1.	Accurate and timely information	4
2.	Database compatibility	4
3.	Monitor target markets	3
4.	Easy to use	3
5.	Consistent interpretation	2
6.	Decision-making information	2
7.	Customer information	2
8.	Consistent data	2
9.	Daily enrollment reporting	2
10.	Remote access	2
11.	Graphic display	2
12.	Customer driven information	2
13.	Easy data manipulation	2
14	Longitudinal information	2

Question three asked what were the criteria for success and had six requirements identified. Because only 18 responses were generated for this question the number of votes cast was modified to five prior to the voting. None of the requirements received votes from all four Executive Committee members. Two of the requirements received votes from three members and four received votes from two. Table 5 lists the requirements and the votes.

Table 5

Question 3: Criteria for Success

Information Requirements		Votes
1.	Information available when needed	3
2.	Futuristic information available	3
3.	Monitor FTEs	2
4.	Consistent conclusions reached	2
5.	Trained staff	2
6.	Easy communication	2

Question four related to ideal information needs and had ten requirements identified. Three requirements received four votes including population demographics, local and national technical skilled job trend data, and target market attributes. Two requirements had three votes and five had two votes. Table 6 lists the requirements and the votes.

Table 6

Question 4: Ideal Information Needs

Information Requirements		Votes
1.	Population demographics	4
2.	Local and national technical skilled job trend data	4
3.	Target market attributes	4
4.	Historical student demographics	3
5.	Current customer attributes	3
6.	Benchmarks from similar institutions	2
7.	Placement information on current and past students	2
8.	Local and national employment data	2
9.	Staff demographics.	2
10.	Ability to manipulate student and other data bases	2

After the information requirements were identified they were evaluated against the reports identified in step 3 by the researcher and the Administrator of Research. The process used to conduct the evaluation followed the method suggested by Hoffer (1995) which is referred to as top-down planning (pp. 206, 212). A matrix (see Appendix H) was prepared for each question listing the prioritized responses from step four of the procedures across the horizontal axis and the reports identified in step three of the procedures down the vertical axis. The information requirements were then correlated against the reports by placing an X at the intersection of the row and column when it was determined that the report met the need of the requirement. A summary of the results of the comparison is presented in Table 7. Reports receiving the most Xs were determined to have the highest correlation with the information requirements.

Table 7

Ideal Requirements to Reports Comparison Summary

Reports	Question 1	Question 2	Question 3	Question 4	Total	Percent
PVA/PPP Documents	6	5	2	2	15	34%
WisPop Report	5	6	2	4	17	39%
Environmental Scanning Rep	7	2	1	1	11	25%
Information Planning Doc	9	5	0	8	22	50%
Focus Group Reports	8	4	1	1	14	32%
Business Studies	12	5	0	4	21	48%
High to Low Enrollment Report	5	5	2	1	13	30%
Client Reporting Comparisons	5	6	0	4	15	34%
Course Information Detail	0	3	1	0	4	9%
Employer Follow-up Report	1	0	0	2	3	7%
Graduate Follow-up Report	6	4	0	1	11	25%
FTE Report (Computer)	4	4	2	1	11	25%
Enrollment Report	1	3	0	0	4	9%
FTE Report	4	5	2	0	11	25%
State Information/Reports	2	4	0	6	12	27%
ACT Survey	1	3	0	1	5	11%
Strategic Plan	3	1	1	0	5	11%
FTE Report (CLI 990)	2	3	0	4	9	21%
WTCS Labor Market Info	5	2	1	4	12	27%
WTCSB Minutes	0	1	0	1	2	5%

The report receiving the highest correlation was the Information Planning Document which received a score of 22, a 50% correlation with the information requirements. Next, the Business Studies received a score of 21, or a 48% correlation. Four more reports had a correlation of 30%

or greater and include the PVA/PPP Documents, WisPop Report, Focus Group Reports, and Client Reporting Comparisons.

As the researcher and the Administrator of Research were completing the evaluation the discussion began as to wether or not the information needs identified by the Executive Committee in question four would meet the use requirements identified in question 1. A comparison was completed (see appendix I) between the use of marketing information (question 1) and the information needs (Question 4). The results show which reports are useful to members of the Executive Committee in fulfilling their responsibilities.

The requirements and evaluation were reviewed with the Executive Committee and a recommendation made by the researcher that these requirements provide the basis for the development of a market research and analysis information system. The Executive Committee supported the results and felt the results accurately portrayed their needs. The information requirements were incorporated into the technology plan to provide overall direction to the design of the information system.

Six procedures were used to complete the evaluative study including (1) a review of the literature, (2) development of a framework for a data dictionary, (3) analysis of the current information system, (4) identification of ideal information requirements, (5) evaluation of ideal requirements against the current information system, and (6) approval by the Executive Committee. Twenty reports were identified as providing market information to the Executive Committee. Of the 20 reports 12 were produced internally and only three were accessible via the computer. Questions used to determine ideal information needs were related to use of market information, system expectations, success criteria, and information needs. A total of 110 responses were elicited of which 44 were selected as requirements. In comparing the ideal

requirements to the analysis of the current information only one report satisfied 50 percent of the requirements and six reports satisfied 30 percent or more. the Executive Committee approved the requirements for use in designing the market research and analysis information system.

Chapter 5

DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Discussion

Executive Committee information requirements for a market research and analysis information system were determined through an analysis of the current information available by first identifying what information was currently being used and then by identifying information system requirements in four areas including use of market information, expectations of a market information system, criteria for success, and ideal information needs. The results of the current analysis were correlated against the information system requirements to determine to what extent the current information available satisfied the information requirements.

Twenty different reports both computer accessible and hard copy accessible were identified. Only 3 of the reports were accessible via the computer. Futhermore, 12 of the reports originated from the Lakeshore Technical College database.

In comparing the ideal information requirements to the information currently available one report satisfied 50 percent of the requirements, one report satisfied 48percent of the requirements, and four reports satisfied more than 30 percent of the requirements. The information requirements are met primarily through two basic types of documents. The documents are entitled Information Planning Document and Business Studies which satisfy around 50 percent of the requirements. Four other reports entitled PVA/PPP Documents, WisPop Report, Focus Group Reports, and Client Reporting Comparisons, satisfy at least 30 percent of the information requirements.

Conclusions

It can be concluded that the current information available to Executive Committee members does not adequately meet their information requirements. Another conclusion is that two reports -- Information Planning Document and Business Studies -- satisfy the majority of the information requirements. A further conclusion is that the current reports are strong in program and service information and lack market pricing information. It can also be consluded that that the information requirements of the Executive users can be met through the existing data base. However, access to the data base by various users needs to be improved. A final conclusion was that there is not an overall market research information system. Most of the reports are generated through separate processes.

Implications

A number of implications can be drawn from this study. First, although the current reports do not adequatly meet the information requirements the database does contain the necessary information. Because most of the information is not accessible via the computer improving access can make improvements toward meeting the information requirements. Second, the requirements provide a guide for systems designers at Lakeshore Technical College to use in developing a market research and analysis system.

Recommendations

It is recommended that LTC continue to develop the data dictionary system to help define the data elements. It is also recommended that a market research and analysis information system be developed that integrates data from external sources with the internal database. A further recommendation is that an information system that provides access to market information by executive and management users for use in making program and service decisions. A final

recommendation is that the process used to determine the information requirements be adopted by the computer services area for use in designing future systems.

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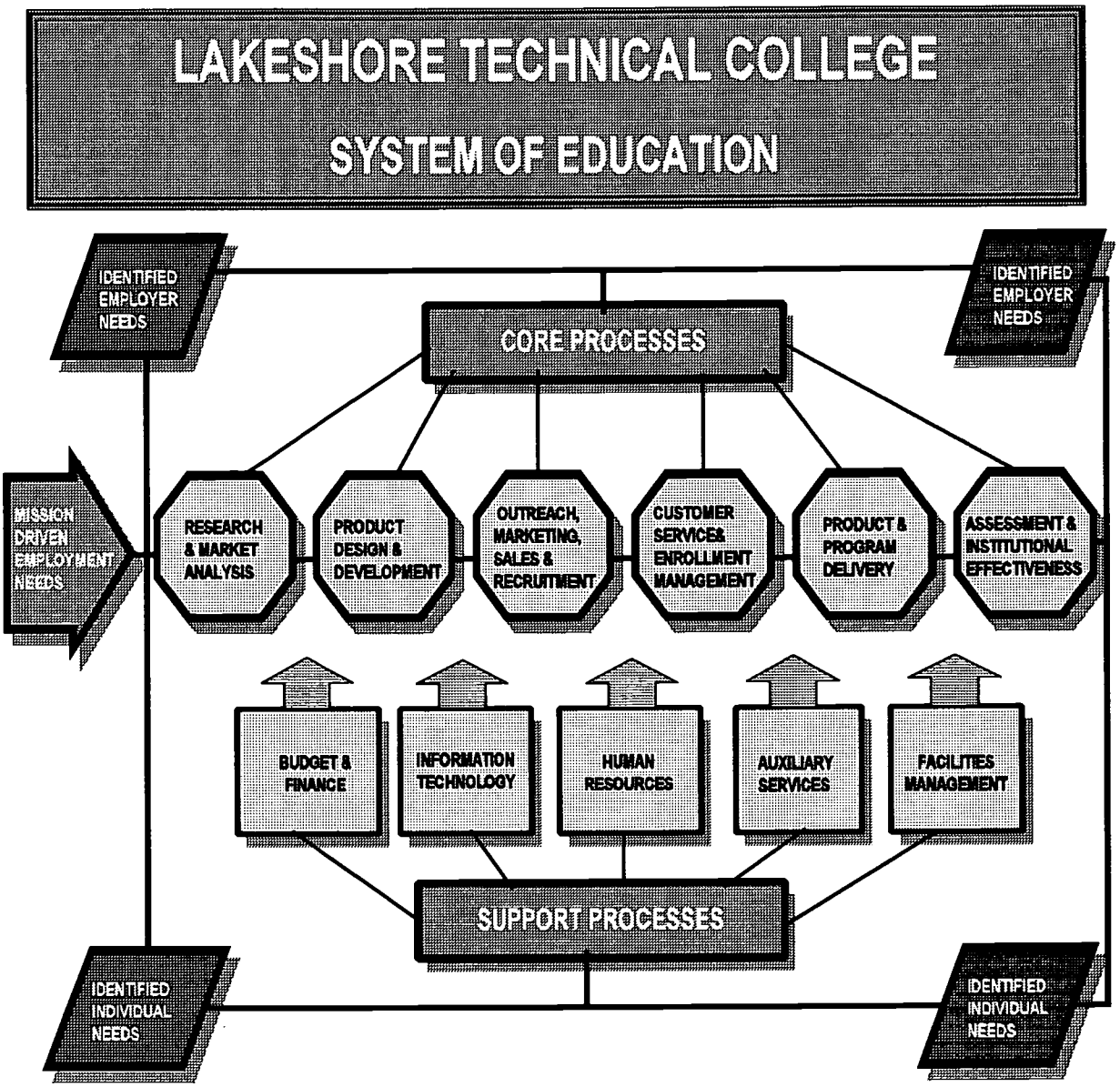
APPENDIXES

Appendix A

Lakeshore Technical College System of Education



Appendix B

Data Dictionary Component Definitions

Component	Definition
Type	Identifies the element as a file, field, or report.
Name	The name of the item.
Number:	An identifying number.
Description:	A narrative description of the element.
Source:	The source of the data.
Notes:	Any other descriptive information on the element.

Data Dictionary

Data Collection Form

COMPONENT TYPE: Identify the data element as one of the following:

FIELD ___ FILE ___ REPORT ___

NAME: List official name of data element. (30 spaces)

_____

NUMBER: List an identifying number for the data element. (6 spaces) _____

DESCRIPTION: Give a narrative description of the data element.

_____
_____
_____
_____
_____

SOURCE: From what origin is the data obtained?

_____
_____

NOTES: Give any other descriptive information on the data element.

_____
_____
_____
_____
_____
_____
_____
_____

Data Dictionary

Data Collection Form

For Information Requirements

NAME: List official name of data element. (30 spaces)

_____

DESCRIPTION: Describe the data element.

_____
_____
_____
_____
_____

SOURCE: From what origin is the data obtained?

_____
_____

CAPTURE: How is the data obtained?

_____
_____

FREQUENCY OF REPORTING: Check all that apply.

__ Daily __ Weekly __ Monthly __ Quarterly __ Semiannually __ Annually
__ Semester __ Other (explain) _____

NOTES: Give any other descriptive information on the data element.

_____
_____
_____
_____
_____
_____
_____

Appendix C

Agenda for Current Analysis Interviews

Research & Market Analysis Executive Needs Identification

Definition: Gather information to develop a database to make decisions. Identify markets and develop strategies. Assess the competition.

Problem: It is not known if the market research information requirements of executive users are being met.

Purpose: To evaluate the marketing information requirements of the executive staff at LTC. Executive staff were chosen because of the impact their decisions have on the overall direction and operations of the college.

Procedure: 1. Analyze current situation. 2. Identify ideal requirements. 3. Gap analysis.

Benefits:

1. Guide the implementation of the market research information system.
2. Decisions made that are based on customer needs.
3. Decisions made that are based on data.

Agenda

1. Review project.
2. Identify information currently being used.
    a. Hard copy reports.
    b. Computer screens.
    c. Other.
3. Next step.

Appendix D

Current Analysis Data Capture Form

Market Research Current Information Analysis

Name: Date:

Element	How Used*				Frequency	Who is it shared with?
	A	I	DM	O		
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

*Key: A=Analysis, I=Information, DM=Decision Making, O=Other

Appendix E

Agenda for Requirements Planning Meeting

Agenda - Market Research - 6/4/97

1:10 PM	Introduction: Overview of Meeting Purpose
1:15 PM	Question 1 (Categorizer): What do we do as an Executive Committee that requires research and market analysis information?
1:30 PM	Vote on Question 1 (Vote): Choose the top 10 from the compiled list.
1:35 PM	Question 2 (Categorizer): What are your expectations of a research and market analysis system?
1:50 PM	Vote on Question 2 (Vote): Choose the top 10 from the compiled list.
1:55 PM	Question 3 (Categorizer): What are your criteria for success of a research and market analysis system?
2:10 PM	Vote on Question 3 (Vote): Choose the top 10 from the compiled list.
2:15 PM	Question 4 (Categorizer): Ideally, what information do you need from a market and research analysis system to make a decision?
2:30 PM	Vote on Question 4 (Vote): Choose the top 10 from the compiled list.
2:35 PM	Adjourn Meeting: Discuss next step.

Appendix F

Abbreviations Made to Prioritized Statements

Statement Abbreviations

Question 1: Use of market information. What do you do as an Executive Committee that requires research and market analysis information?

Statement	Abbreviation
1. Select target markets	Select target markets
2. Make decisions on what programs to continue or discontinue	Program decisions
3. Enhance accountability measures	Measure accountability
4. Monitor demographic information that may change the wants and needs of our customers	Monitor demographics
5. Support innovation among faculty and staff	Support innovation
6. Represent the college to the community	Represent the college
7. Set goals to be reached	Set goals
8. Determine the level of capacity/service that is aligned with the target markets identified	Determine service level
9. Understand the competition	Understand the competition
10. Determine future educational needs of the community	Determine community needs
11. Make pricing decisions for products such as workshops, 38.14 contracts.	Set pricing strategy
12. Provide leadership to the college and our respective areas	College leadership
13. Service delivery decisions	Delivery decisions
14. Determine the resource viability of offering specific learning opportunities and services	Determine resource viability

Question 2: System expectations. What are your expectations of a research and market analysis system?

Statement	Abbreviation
1. Provide accurate and timely information	Accurate & timely information
2. Compatible with other information bases used in the state/nation/world	Database compatibility
3. Let us monitor target market activities	Monitor target markets
4. Easy to use	Easy to use
5. Easy to interpret the information consistently	Consistent interpretation
6. Provide information that I need for decision making.	Decision making information
7. Tell us things about our customers we don't know	Customer information
8. It's consistently drawn from the same data base.	Consistent data
9. Provide daily updates on enrollment statistics	Daily enrollment reporting
10. It's easily accessible from my computer at work and home.	Remote access
11. It can be easily displayed graphically.	Graphic display
12. Information bases are customer driven not state information needed	Customer driven information
13. Manipulation of the data can be done by the uses	Easy data manipulation
14. Provide longitudinal information	Longitudinal information

Question 3: Criteria for success. What are your criteria for success of a research and market analysis system?

Statement	Abbreviation
1. The information I need for decision making is available to me when I need it.	Information available when needed
2. Futuristic information for decision making is as available as historic	Futuristic information available
3. FTE's increase	Monitor FTE's
4. The same conclusion/answer to a question is reached based on the information provided regardless who retrieves the information	Consistent conclusions reached
5. Staff are trained and understand the importance of data	Trained staff
6. Communications throughout the college is made easier because of consistency of information	Easy communications

Question 4: Information needs. Ideally, what information do you need from a market and research analysis system?

Statement	Abbreviation
1. Population demographics	Population demographics
2. Local and national technical skilled job trend data	Job trend data
3. Target market attributes	Target market attributes
4. Historical student demographics	Historical student demographics
5. Current customer attributes	Current customer attributes
6. Benchmarks from similar institutions	Benchmarks
7. Placement information on current and past students	Placement information
8. Local and national employment data	Employment data
9. Ability to manipulate student and other data bases	Multi database access

Appendix G

Market Research and Analysis Reports

The following reports were identified by the Executive Committee as reports currently used as sources of market research information.

Reports	How Used*				Frequency
	A	I	DM	O	
1. PVA/PPP Documents		X	X		Annually
2. WisPop Report	X	X			As Needed
3. Environmental Scanning Report		X			Semi Annual
4. Information Planning Document		X			Annually
5. Focus Group Reports	X				As Needed
6. Business Studies	X	X			As Needed
7. High to Low Enrollment Report	X				Annually
8. Client Reporting Comparisons	X				Annually
9. Course Information Detail	X				Annually
10. Employer Follow-up Report		X			Every 4 Years
11. Graduate Follow-up Report		X	X		Annually
12. FTE Report (computer)		X			Monthly
13. Enrollment Report			X		Weekly

Reports	How Used*				Frequency
	A	I	DM	O	
14. FTE Report		X			Monthly
15. State Information/Reports		X			Annually
16. ACT Survey		X			Annually
17. Strategic Plan		X			Annually
18. FTE Report (CLI 990)		X			Annually
19. WTCS Labor market Information			X		As Needed
20. WTCSB Minutes-New Program		X			Periodically

Appendix H

Information Requirements to Reports Correlation

Current Situation to Ideal Needs Comparison

Question 1: Use of Marketing Information

Requirements

Reports	Select target markets	Program decisions	Measure accountability	Set goals	Represent the college	Determine service level	Understand the competition	Monitor demographics	Support innovation	Determine community needs	Set pricing strategy	College leadership	Delivery decisions	Resource viability	Total
PVA/PPP Documents	X	X	X	X		X							X		6
WisPop Report	X			X				X		X			X		5
Environmental Scanning Report	X			X	X		X		X	X		X			7
Information Planning Document	X	X		X	X	X	X	X	X				X		9
Focus Group Reports	X	X		X		X			X	X		X	X		8
Business Studies	X	X		X	X	X	X	X	X	X	X	X	X		12
High to Low Enrollment Report		X	X	X		X							X		5
Client Reporting Comparisons		X	X	X		X		X							5
Course Information Detail															0
Employer Follow-up Report										X					1
Graduate Follow-up Report		X	X	X	X	X				X					6
FTE Report (Computer)		X	X	X		X									4
Enrollment Report						X									1
FTE Report		X	X	X		X									4
State Information/Reports	X	X													2
ACT Survey													X		1
Strategic Plan				X	X				X						3
FTE Report (CLI990)	X					X									2
WTCS Labor Market Information	X	X				X				X		X			5
WTCSB Minutes-New Programs															0
Total	9	11	6	12	5	12	3	4	5	7	1	4	7	0	

Current Situation to Ideal Needs Comparison

Question 2: Expectations of Market Research & Analysis System

Requirments

Reports	Accurate & timely information	Database compatibility	Monitor demographic	Easy to use	Consistent interpretation	Information for decision making	Customer information	Consistent data	Daily enrollment reporting	Remote access	Graphic display	Customer driven information	Easy data manipulation	Longitudinal information	Total
PVA/PPP Documents				X	X	X		X						X	5
WisPop Report	X		X			X	X	X		X					6
Environmental Scanning Report				X		X									2
Information Planning Document				X		X	X	X						X	5
Focus Group Reports	X					X	X					X			4
Business Studies	X		X			X	X					X			5
High to Low Enrollment Report	X			X	X	X		X							5
Client Reporting Comparisons	X				X	X	X	X						X	6
Course Information Detail	X					X		X							3
Employer Follow-up Report															0
Graduate Follow-up Report	X					X	X	X							4
FTE Report (Computer)	X					X			X					X	4
Enrollment Report						X		X						X	3
FTE Report	X			X		X		X						X	5
State Information/Reports						X	X	X						X	4
ACT Survey						X	X	X							3
Strategic Plan						X									1
FTE Report (CLI 990)						X	X	X							3
WTCS Labor Market Information						X	X								2
WTCSB Minutes-New Programs						X									1
Total	9	0	2	5	3	19	10	12	1	1	0	2	0	7	

Current Situation to Ideal Needs Comparison
Question 3: Criteria for Success

Requirements

	Information available when needed	Futuristic information available	Monitor FTE's	Consistent conclusions reached	Trained staff	Easy communication	Total
PVA/PPP Documents				X		X	2
WisPop Report	X	X					2
Environmental Scanning Report		X					1
Information Planning Document							0
Focus Group Reports		X					1
Business Studies							0
High to Low Enrollment Report	X					X	2
Client Reporting Comparisons							0
Course Information Detail	X						1
Employer Follow-up Report							0
Graduate Follow-up Report							0
FTE Report (Computer)	X			X			2
Enrollment Report							0
FTE Report				X		X	2
State Information/Reports							0
ACT Survey							0
Strategic Plan		X					1
FTE Report (CLI 990)							0
WTCS Labor Market Information		X					1
WTCSB Minutes-New Programs							0
Total	4	5	0	3	0	3	

Current Situation to Ideal Needs Comparison
Question 4: Ideal Information Needs

Requirements

Reports	Population demographics	Job trend data	Target market attributes	Historical student demographics	Current customer attributes	Benchmarks	Placement information	Employment data	Staff Demographics	Multi database access	Total
PVA/PPP Documents						X	X				2
WisPop Report	X		X					X		X	4
Environmental Scanning Report		X									1
Information Planning Document	X	X	X	X	X		X	X	X		8
Focus Group Reports			X								1
Business Studies	X	X			X			X			4
High to Low Enrollment Report										X	1
Client Reporting Comparisons				X	X	X				X	4
Course Information Detail											0
Employer Follow-up Report		X						X			2
Graduate Follow-up Report							X				1
FTE Report (Computer)										X	1
Enrollment Report											0
FTE Report											0
State Information/Reports				X	X	X	X		X	X	6
ACT Survey			X								1
Strategic Plan											0
FTE Report (CLI 990)			X	X	X					X	4
WTCS Labor Market Information		X	X					X		X	4
WTCSB Minutes-New Programs								X			1
Total	3	5	6	4	5	3	4	6	2	7	

Current Situation to Ideal Needs Comparison
Responsibilities to Information Needs

Informaton Needs

Use of Market Infrmation	Population demographics	Job trend data	Target market attributes	Historical student demographics	Current customer attributes	Benchmarks	Placement information	Employment data	Staff Demographics	Multi database access	Total
Select target markets	X	X		X	X		X	X	X	X	8
Program decisions		X	X	X		X	X	X		X	7
Measure accountability			X	X	X	X	X			X	6
Set goals	X	X	X	X	X	X	X	X		X	9
Represent the college		X		X	X	X	X	X		X	7
Determine service level	X	X	X	X	X	X	X	X	X	X	10
Understand the competition			X			X					2
Monitor demographics	X	X		X	X	X	X	X		X	8
Support innovation		X	X					X		X	4
Determine community needs	X	X					X	X		X	5
Set pricing strategy			X		X		X			X	4
College leadership	X	X		X	X			X		X	6
Delivery decisions	X		X	X	X			X			5
Determine resource viability		X		X	X	X		X	X	X	7
Total	7	10	8	10	10	8	9	11	3	12	

Appendix I

Responsibilities to Information Needs Matrix

Current Situation to Ideal Needs Comparison

Responsibilities to Information Needs

Responsibilities\Information Needs	Population demographics	Job trend data	Target market attributes	Historical student demographics	Current customer attributes	Benchmarks	Placement information	Employment data	Staff Demographics	Multi database access	Total
Select target markets	X	X		X	X		X	X	X	X	8
Program decisions		X	X	X		X	X	X		X	7
Measure accountability			X	X	X	X	X			X	6
Set goals	X	X	X	X	X	X	X	X		X	9
Represent the college		X		X	X	X	X	X		X	7
Determine service level	X	X	X	X	X	X	X	X	X	X	10
Understand the competition			X			X					2
Monitor demographics	X	X		X	X	X	X	X		X	8
Support innovation		X	X					X		X	4
Determine community needs	X	X					X	X		X	5
Set pricing strategy			X		X		X			X	4
College leadership	X	X		X	X			X		X	6
Delivery decisions	X		X	X	X			X			5
Determine resource viability		X		X	X	X		X	X	X	7
Total	7	10	8	10	10	8	9	11	3	12	10

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