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**ASSESSING THE IMPACT OF INTERNAL FACTORS  
ON CORPORATE TRAINING AND EDUCATION**

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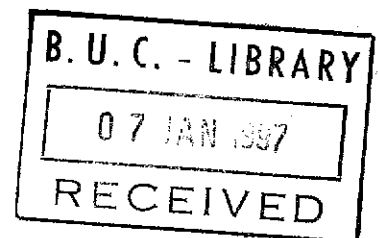
**A Research Topic  
Presented to Business School  
Lebanese American University  
LAU**

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**In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in Business  
Management**

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**BY  
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LAU

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BEIRUT , LEBANON

APPROVAL OF RESEARCH TOPIC

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DEGREE : MASTER OF SCIENCE IN BUSINESS MANAGEMENT

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TITLE OF RESEARCH TOPIC : ASSESSMENT OF COMPANY SIZE,  
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*Dedication*

*TO MY PARENTS*  
&  
*MY FIANCEE*  
*WITH ALL MY LOVE*

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## Abstract

The building of modern nations depends upon the development of people and the organizations of human activity. Capital, natural resources, foreign aid, and the international trade, of course, play important roles in economic growth, but none is more important than manpower. Therefore, people at all levels and professions must continually upgrade their skills and knowledge and this can not be achieved without effective corporate policies on education and training.

In this research, the history of training along with the various education and training methods and applications are presented and discussed. In addition, the major forces shaping corporate policies on education and training are listed in order to be tested according to their relationships with such policies.

The purpose behind conducting this research is to examine whether the Lebanese organizations are able to face the demand for a more skilled workforce by adopting effective educational and training policies. In addition, this study tends to test and assess the major factors that shape such policies. For this to be accomplished a group of employees from various Lebanese organizations was asked to answer a questionnaire including the above issues. After that, certain statistical models were applied on the collected data to end up with certain results showing that management culture is the only factor that tends to be associated with the variability in education and training activities in the Lebanese organizations. Finally, recommendations related to the effectiveness of training and education strategies were raised.

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# **CHAPTER ONE**

## **INTRODUCTION**

Concern about the quality of employees and the need to capitalize on their skills is widespread. This has increased the importance of corporate education and training strategies in keeping these employees always effective and competitive.

Our concern in this research is to examine the development of the human resources which may be the critical key to the future of Lebanon. The Lebanese have no other choice but to provide a higher level of productivity for the future, and this must be accompanied by effective corporate policies on education and training.

However, company policies on education and training are not developed in a vacuum. There are many factors that tend to shape such policies varying from the company's product markets, to production technologies, and to the various business strategies.

## 1.1 IMPORTANCE OF EDUCATION AND TRAINING

There is evidence that people are the key to any successful business operation. However, this success can not be achieved without properly skilled and knowledgeable human resources. This fact shows the importance of education and training in preparing the employees for the achievement of the goals of their organization.

Training, which is related to the employee's present job, concentrates on the development and maintenance of competencies to perform roles and tasks in a particular work situation. It is concerned with the actual job performance. The focus of education, on the other hand, is on preparing the employee to perform on a specific job or group of jobs in the future. Education is more likely an investment that tends to get the individual ready for any promotion. Hence, for any organization to succeed in maintaining and upgrading its employees' skills, it must provide both training and education.

## 1.2 MANAGEMENT SUPPORT FOR EDUCATION AND TRAINING PRACTICES

Training and education are considered two of the most important tools available to a company to help it reach its objectives. Every company needs to provide training and education programs in order to have well-prepared employees ready to perform their present jobs or any required future jobs.

Lebanon is considered one of those countries in which training and education are not yet considered an important investment in the human resources. The Lebanese corporate policies on education and training should be examined in order to test the awareness of these Lebanese organization concerning this rising phenomenon. This research was felt necessary in order to assist in performing that job.

#### 1.4 STATEMENT OF THE HYPOTHESES

This research intends to study the following hypotheses :

- Educational and training practices are well implemented in the Lebanese organization .
- Factors such as company size, workforce composition, culture, and work redesign and restructuring are most likely to be associated to the variability in training and educational practices.

#### 1.5 STATEMENT OF THE PURPOSE

Examining the corporate response to the concern about the quality of employees is the major purpose behind conducting this research . Much of the variation in the education and training practices can be traced to the company's characteristics in addition to its strategic decision. This study tends to test and assess four of the major factors that shape these practices. These

factors are company size , workforce composition , management culture , and corporate restructuring.

It is worth mentioning here that the research will follow the following outline :

Chapter two is a review of literature that deals with the history of training , the difference between training and education , training methods, training applications and the factors shaping corporate training and education strategies.

Chapter three , is a description of the research design and methodology followed in this study.

Chapter four presents and explains the findings of this study.

Finally , chapter five is a conclusion in which a summary of the major findings along with some suggested recommendations will be presented.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 HISTORY OF TRAINING :

"It is generally thought that human beings began amassing knowledge at the beginning of the stone age. As they invented tools, weapons, clothing, shelter, and language, the need for training became an essential ingredient in the march of civilization".<sup>1</sup>

History tells us that the rules governing the apprenticeship system were included in the code of Hammurabi almost 4,000 years ago. In an apprenticeship system, an experienced person passes along knowledge and skills to the novice, who after a period of apprenticeship becomes a journeyman, or yeoman. This system was used in the instruction of medicine, law and many other professions where the education is now in the domain of the colleges and universities. In addition, the formation of guilds in the middle ages increased and upgraded this type of training.

The Industrial Revolution marked the beginning of the decline in apprenticeships, and after this turning point the majority of labor training shifted from apprenticeships to on-the-job training and formal group training. In addition, formal education began to replace experience acquired through the apprenticeship system. In 1872, Hoe and company, a manufacturer of printing presses in New York City, established one of the first factory schools. Through this school, the company was able to train more machinists in order to keep pace with the growing market.<sup>2</sup>

In the early 1900s, vocational education extended to a point that there was a great need for mutual assistance in this field. In 1906, a number of key educators interested in industrial education met in New York City, and formed the National Society for the Promotion of Industrial Education. This society later merged with others to become the American Vocational Association, which was composed of teachers and supervisors whose aim was to develop and improve technical and practical arts education.

After world war I, which provided new approaches to training, companies were compelled to provide a stable source of competent management, so colleges and universities responded to this need by expanding management education programs. Also, technological companies began to develop their own in-house training through seminars on management. In addition, sales training expanded during the postwar period in order to market big ticket items like electric refrigerators or washers.

World war II further influenced training and emphasized the great need for it, and for the first time, it was part of the supervisory function. In addition, the training director became a necessity, and occupied his place in the management hierarchy. In order for the trainers to move faster, they began to use training films, simulators, and flip charts.

During the 1950s and 1960s, three important developments were clearly witnessed.<sup>3</sup> First, trainers began to emphasize more on management development and behavioral skills. Second, the programmed instruction method of teaching and learning was introduced. Third, training was used as a means for companies to become more competitive in the market place, for example sophisticated product information was presented to employees internally or through outside consultants.

The 1970s and the early 1980s were characterized by a tremendous increase of commitment and interest in training the workforce. Trainers became more professional during this period and they began to give a lot of concern to the training needs, evaluation, motivation, and the training methods. In addition, many improvements were added on the training hardware such as standardized video cassettes and computers.

Trends lately have included more emphases on basic and remedial training, and generic skills like communication and computer use. In addition, regulations and laws dealing with safety, health procedures and environmental codes have required additional employer and employee training. Further, corporate-sponsored employee education and training has been developed

and expanded so that companies can stay competitive by providing goods and services better, faster, and cheaper.

## 2.2 TRAINING AND EDUCATION : A DIFFERENCE :

There is a difference between training and education. While training concentrates on the employee's abilities and competencies to perform specific tasks in a certain work situation, education is more concerned with challenging the individual intellectually while concentrating on his general growth and development.<sup>4</sup> So, training is said to be narrower and more specific than education because its aim is to teach specific skills and procedures. However, in order for any learning program to be successful and achieve its objectives it should use both educational and training elements.

The distinction between training and education can be drawn using four dimensions: focus, time utilization, financial resources, and risk.<sup>5</sup> The focus of training is on the employee's present job taking into consideration his actual performance outputs, while the focus of education is on preparing the employee to perform a specific job or group of jobs in the future. Concerning time utilization, the time emphasis in training is on immediate use, while in education the emphasis is directed towards the future. Training is classified as an expense and there should be some return on the job being done by the trainee. On the other hand, education is considered an investment which may not provide a return to the organization. Finally, concerning risk, training is a



low-risk activity while education is a medium-risk activity since it is an investment, and it contains all the risks attendant to an investment.

### 2.3 TRAINING METHODS :

There is evidence that no single training method is preferable to any other by nature, however, one method may better serve the objectives of a particular training program than another. Among the most commonly used training methods are job training, classroom instruction, case method, role playing, computer based training, audiovisual, and multimedia methods. Here follows a discussion of each of the above mentioned methods.

#### 2.3.1 Job Training :

Job training is an organized method of training designed to help employees learn certain skills while actually working in an assigned job.<sup>6</sup> Many researches have shown that more persons have experienced this method than any other training method. The techniques of job training are useful in teaching skills in various organizational settings; for example, at the work place, in the shop, at the desk, or in the laboratory. It is evident that job training gives an equal opportunity to learn for all trainees, since it deals only with what an individual does on the job. Further, this method may be

designed to overcome any skill deficiency, to support a given training program, or to up-grade an employee's skill for job advancement .

#### 2.3.1.1 OJT and JIT :

Trainers usually make a distribution between OJT (on-the-job-training) and JIT (job instruction training). The major difference between these two methods lies in the extent of formality and organization to which each method is made. In OJT employees are expected to learn while doing the job under the guidance of a supervisor or an experienced worker. Much on-the-job training is delivered on a one-to-one basis, but the same trainers will instruct perhaps three or more individuals. This method is suitable for jobs that require the employee to master several behaviors and skills such as in sales, customer contact, clerical jobs, and supervisory positions. JIT, on the other hand, is based on a mechanical step procedure where the instructor has to present the material in a formal and disciplined manner. It is usually used in teaching a motor skill .

OJT and JIT both help the new employee to be assimilated more quickly into the company, give the employee a sense of satisfaction while performing his job and permit the employee to work at his own speed, thereby gaining confidence and a sense of productiveness.

### 2.3.2 Classroom Instruction :

When trainers aim at providing a great deal of information effectively to a large number of individuals, classroom instruction is considered the most appropriate technique. Many studies have shown that the major portion of adult training is done in the classroom even in the presence of such advances as computer-assisted instruction, teaching machines, or other self-instructional devices.<sup>7</sup> The main reason behind that, is the ease of operation in the classroom that does not exist elsewhere. It is easy to do classroom instruction, for all one has to do is find a room, assign an instructor and students, and have the other ingredients for carrying on instruction. In addition, there are other reasons for the popularity of the classroom. Everybody is exposed to the same message at the same time, and he/she gets to start and stop with others also at the same time. All this can be done with just one instructor, and once a course is started, it is possible to proceed without revision. Moreover, the classroom has the advantage of being flexible since there is an opportunity for small-group activities, individual work, and total-group work, in addition to the screens, chalkboards and easels at the front of the room. Further, facility costs can be kept to a minimum as compared to other training techniques.

### 2.3.2.1 Elements of the Classroom Training

1- The instructor : who brings to the classroom a certain amount of knowledge and experience, usually more than the trainees possess. This instructor should always strive to provide opportunities for learning whatever it takes.

2- The trainees : The next element is the group itself, those trainees who make up the class to be trained. It should always be noted that no two trainees are alike. Each has a different ability to learn, a different desire to learn, a different environment to join after the classroom, and what motivates one may turn another off.

3- The material : The material to be taught is an integral part of the teaching-learning situation. Since the purpose of training is to produce behavior change, material should be selected on the basis of its contribution to the change required.

4- The environment : This element includes the physical components like tables, chairs, room temperature and ventilation, and much more than these. It also includes the climate for learning. Sometimes, poor results may be due not to poor teaching and learners, or to the selection of the wrong material, but rather to the poor environment for learning.

### 2.3.3 Case Method :

A case study gives a detailed description of a given series of real or hypothetical events that take place over a specified period of time.<sup>8</sup> Case studies might describe the experience of a given company, or the interaction of individuals in a certain organization. By studying the case, trainees tend to specify the important events and discuss, individually or in groups, what they have learned from them. Case studies can be very useful as long as they provide complete information to the trainee and in the presence of a trainer who knows the case and the technique very well.

Every form of case method should include three elements : the case report, case analysis, and the case discussion. However, it is evident that the case method might not be so helpful unless all its elements meet certain standards. Here follows some of these necessary standards so that this method can achieve better or even the best results.<sup>9</sup>

A- The case Report : This element should :

- i- Provide facts without including the writer's opinions.
- ii- Be objectively stated without being warped by bias.
- iii- Show both formal and informal interpersonal relationships.
- iv- Describe process by focusing on the change of situation during the time span of the case report.

B- The case Analysis, this element should :

- i- Be comprehensive, thorough, and relatively objective.
- ii- Be flexible.
- iii- Offer practice in problem solving and decision making.
- iv- Be focused on the given case study.

C- The case Discussion, this element should :

- i- Achieve coverage by taking into consideration all the aspects and issues of the case, and showing the full range of the trainees' opinions.
- ii- Keep moving, but at the same time setting a pace that is nearly right for the whole group.
- iii- Be free and informal without being limited by the status of certain individuals.

There is evidence that trainees who have experienced a form of case method in which its elements have met the above standards, have had a great opportunity to work productively as problem solvers and sound decision makers .

### 2.3.4 Role Playing :

Role playing can be considered as one of the most effective training methods available to the group facilitator since it helps trainees to develop and enhance their behavior skills and to discover attitudes that affect their behavior.<sup>10</sup>

However, the usefulness of role playing depends to a great extent on the ability of the facilitator to understand the relationship between attitudes and behavior and to appreciate the complicated psychological processes through which new behavioral patterns are formed. During the role play, trainees are assigned certain roles and asked to react and behave as if they are really living the given problem or event. After that, these trainees, with the assistance of the facilitator, try to share and process what they have experienced and generalize and apply what they have learned .

#### 2.3.4.1 The objectives of role playing :<sup>11</sup>

i- Diagnosing : Establishing a better understanding of the trainees by observing them in action.

ii- Informing : Giving observers, those who are just watching and listening but not acting as role players, an opportunity for vicarious learning.

iii- Training : Giving the role players a chance to practice behavioral skills and also receiving feedback.

iv- Evaluating : Analyzing the performance and the response of trainees before giving a certain evaluation.

Finally, it is evident that in order for a role play to succeed, the role players must clearly understand the specific training purposes. However, it is the responsibility of the facilitator to clearly communicate those purposes.

### 2.3.5 Computer-Based Training : (CBT)

Computer-Based training depends completely upon computer technology, making use of videotapes, light pens, touch screens, computer terminals and other devices. During a CBT program, trainees are presented with displays on computer terminals or television monitors, similar to



animated graphics, or video presentations. After that, an evaluation of the trainee's understanding and skill developments is made by examining his responses that are entered into the computer using a keyboard, light pen, or touch screens.<sup>12</sup>

There is evidence that the decision to use Computer-based training in any company should be based on the benefits that are provided by such technology. CBT has the potential to provide two major benefits. It can reduce the cost of training and / or increase its effectiveness. Reducing the cost of training enables the company to provide more training for the same cost by reducing length of training, providing more timely programs, increasing student to instructor ratio and reducing equipment damage. Concerning the effectiveness of training, it is evident that CBT can standardize delivery and feedback, provide individualized student program, and increase performance practice.

#### 2.3.6 Audiovisual Methods :

Audiovisual methods like television, video tapes, or films can provide a wide range of realistic examples of job conditions and situations in a condensed period of time.<sup>13</sup> This technique can be very useful in skills training, or in situations where the trainee's attention must be held. Moreover, audiovisual methods can bring to the training session sights and sounds that are not available otherwise. Also, there is evidence that the quality of

audiovisual materials can be controlled and kept equal for all training groups, since this method does not suffer from the effects of instructor availability, instructor fatigue, or classroom limitations that affect the lecture method.

### 2.3.7 Multimedia Based Training Method :

Multimedia is a combination of several media such as texts, sounds, animation, graphics, and special effects combined together in order to develop a powerful message which will be easily and accurately received by trainees.<sup>14</sup> There is evidence that the new multimedia learning systems have several impacts on the training process. Trainees are empowered to become involved in their own learning process after being provided with easy access to information and being able to illustrate ideas in new, innovative ways. In addition, companies are becoming more aware of the benefits of multimedia, which include improved trainees performance and lower costs, and this has led to the widespread acceptance of multimedia inside HRD departments.

## 2.4 TRAINING APPLICATIONS :

### 2.4.1 Organization development :

Managers today, are faced with a continuous change in the cultural influences that relate to how people work in organizations. They are always in need to acquire new managerial competencies and skills which involve learning to manage in a way which successfully influences the changing human workforce. Thus in almost every modern organization, HRD managers are seeking a better understanding of the complex and changing relationship of human behavior. In response to that, there was the emergence of organizational development (OD) which involves looking at the organization and helping it to change in the direction it desires to go. "Organization development can be defined as a planned process of change in an organization's culture through the utilization of behavioral science technology, research and theory."<sup>15</sup> OD relies on orderly change, change which has been carefully planned to assure that the underlying purposes have been reached without undesirable events.

### 2.4.2 Management Development :

Management development contains every activity which aims at educating managers to effectively manage their subordinates while at the same time achieving the strategies and goals of their company.<sup>16</sup> This

generally includes those individuals above the first two levels of supervision and below senior management. Being responsive to organizational goals and alert to change in the business environment is an important function of the management development professional. In addition, the success of any management development program depends on choosing the most appropriate method for achieving certain goals, and the cost effectiveness of this method. For example, the lecture is not successful in changing behavior, however, it can be highly beneficial for communicating specific information.

#### 2.4.3 Supervisor Development :

Despite the linkage to management development, supervisory development is usually considered a distinctive element, and the reason behind that is related to the unique character of the supervisor in the organizational structure. Of all managers in any organization, supervisors are the only ones who must function at a dual interface, relating on the one hand to their subordinates below them and on the other hand to the policy-oriented managers above them.<sup>17</sup>

As with other training, the methods used for supervisory training should be chosen so that they can help in achieving the established objectives with the greatest simplicity and economy. These methods should contribute to the supervisory development programs by increasing knowledge, increasing skill, and influencing attitudes that supervisors bring to the workplace. In

general supervisors tend to prefer and to learn more effectively from specific concrete examples and reality-oriented practice than from conceptual presentations or from reading assignments.

#### 2.4.4 Sales Training :

Effective sales training can increase sales by enhancing the skills, attitudes, self-confidence, and on-the-job behavior of a company's sales force. The end result is learning, which helps any salesperson to change behavior for the better. "Sales training can be defined as the process of creating an environment in which individual sales personnel can feel motivated to develop effective sales skills and a productive attitude that can lead to achieving personal and business goals."<sup>18</sup> There is evidence that any sales training program should always be an on going process so that it can achieve its goals. Sales trainer usually tend to follow a 10-step plan in order to reach the most productive sales training. Fig 1 shows the process of the 10 steps in sequence. Notice the various times to communicate with management in order to maintain its complete support.

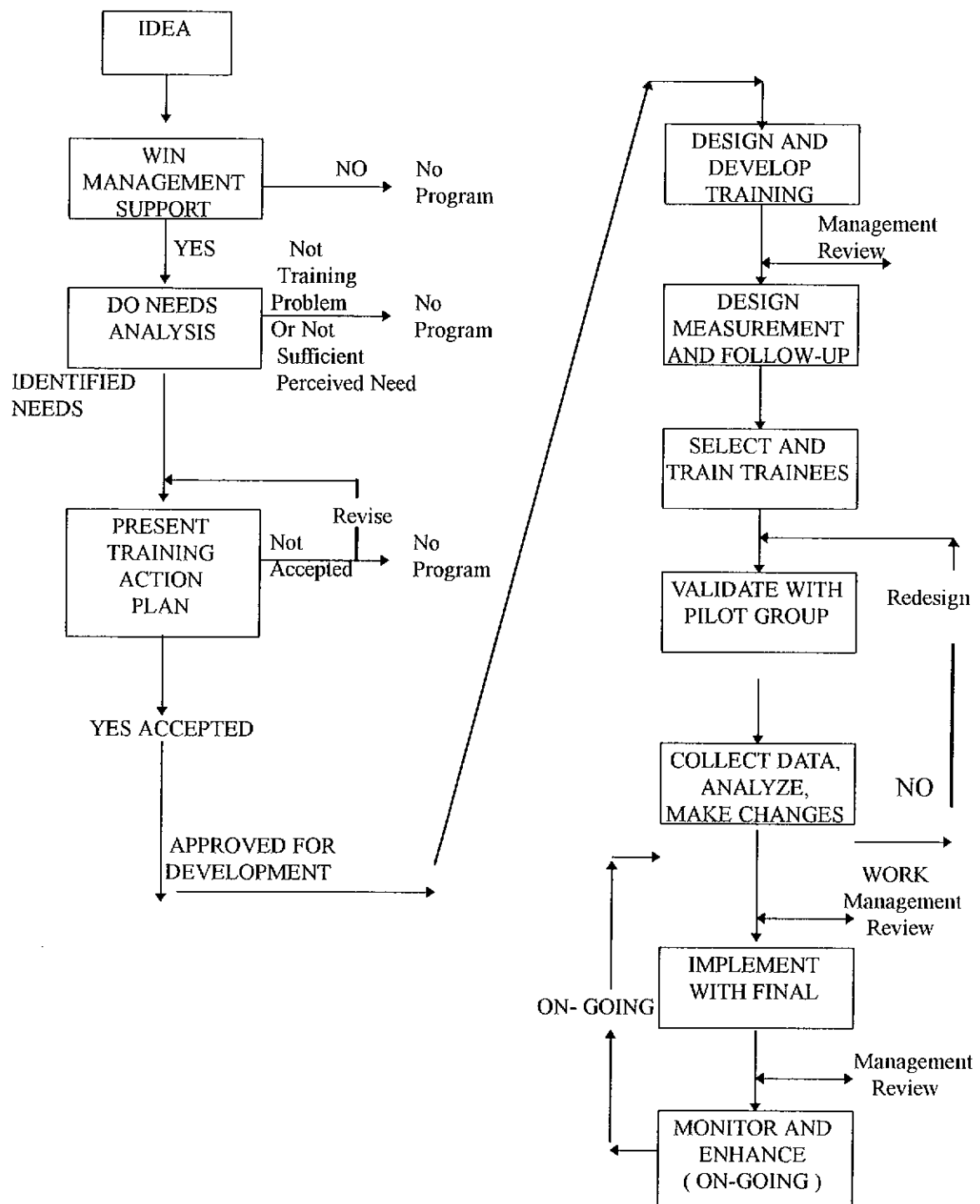


Figure1. Sales Training Program Development Process.

#### 2.4.5 Communication Training :

Every company needs clear and sound communication in order to function well.<sup>19</sup> As a result, every member in any company needs communication training especially those who are not taking best advantage of their opportunities to communicate. Effective communication training should be simply designed to meet the needs of the trainees. In addition, it should be skill-oriented and directed towards enhancing the ability to communicate better. Since communication deals with human relations, other programs like executive, management and supervisory development programs can offer an opportunity for increasing communication skills. However, the major part of skill training is offered on its own, for example, the company can design programs dealing with technical writing, oral presentations, interviewing, and others.

### 2.5 FORCES SHAPING CORPORATE TRAINING AND EDUCATION STRATEGIES :

There is evidence that corporate training and education strategies are shaped by many forces that affect the priorities of the company in this area.

Among the most evident factors that tend to greatly influence the company in setting its education and training techniques are company size and workforce composition, management culture, and corporate restructuring. The following section contains some details concerning these factors and indicate their relationship to retaining and education activities.

### 2.5.1 Company Size and Workforce Composition :

There are many ways to measure the size of a given company. First, we have the share of the market, and those companies that dominate the market place are considered large ones. Second, companies with branches distributed in different countries can be thought of as being large, for example, Saatchi and Saatchi is considered to be one of the largest in the world, with over a hundred offices in fifty-five countries. A third measure of the size is the number of employees in a given company. For example, GM is considered a gigantic firm with about 800,000 employees.<sup>20</sup> In the three measures mentioned above, there is one common factor which is the financial resources of the company that greatly influences education and training investments.

Concerning workforce composition, there are two measures that are usually used; the company workforce that are managerial or white-collar rather than blue-collar, and the fraction of employees that hold a university degree.



### 2.5.1.1 Stages of an Organization's Growth :

Many organization theorists have studied the phenomenon of organizational growth. Robert Kazanjian was one of those who have contributed a lot in this field. He has viewed organizational growth as a sequential process consisting of four stages.<sup>21</sup> Here follows some details concerning these stages :

#### i- Conception and Development :

In this stage, the major focus is on the entrepreneur's attempts to develop a specific product or technology. Structure and formality do not exist at this stage, and almost all organizational activity is concern with the construction of the new product. There are no full-time employees, but some technical people hired on a part-time basis.

#### ii- Commercialization :

The major events that occur during this stage are the organization's obtaining of financial resources and development of the product for commercialization. Concerning structure basic organizational functions, such as manufacturing, engineering, and marketing will be formally created. Also, the company will focus on expanding its human resources by hiring new employees.

### iii- Growth :

During this stage, the organization faces problems concerning the production, selling, and distribution of the product that was proven to be commercially feasible in stage 2. As a result, the organization will expand the number and types of employees in addition to creating new positions and systems. Further, there will be a clear development of a formal organizational hierarchy.

### iv- Stability :

In this stage, the firm's internal growth rate slows to a level consistent with its product's market growth. However, there will be an attempt to develop second-generation products that will enable the organization to maintain its market share and thus remain viable. Concerning structure, the organization can be described as a stable, functional, operating company with a formal structure and standardized rules and procedures.

## 2.5.2 Management Culture :

Management culture can be defined as the mix of values, beliefs, assumptions, meanings and expectations that members of a particular company hold in common and use as behavior and problem-solving guides.<sup>22</sup> Two measures are usually used for taking management culture into account.

The first rates a company's commitment to innovating in the area of human resources, and the second is its resistance to change. The resistance of many management culture to change as an indicator of the management's ability to remain flexible and accommodating to both the internal and external environments, the more the management culture resist change the less the company's ability to remain flexible.

#### 2.5.2.1 Thick and Thin Cultures :

Organizational culture is said to be thick if it is widespread and accepted throughout a given population, that is, if the majority of the members adopt and internalize it. For example, at Ford Motor Company, the organizational creed, which contains the basic values for which the organization stands, is carried on a plastic card by all employees. This is an indication of a thick culture. Thin cultures, on the other hand, are not as central to the group, and their contents are almost peripheral. An indication of a thin culture is the variation of dress coats among units of the same organization.

### 2.5.2.2 Cultural Manifestations :

Any culture has certain manifestations or things that result from it. The following table presents a discussion of the various cultural manifestations.<sup>23</sup>

<b>Manifestation</b>	<b>Description</b>
Rite	Relatively elaborate, dramatic, planned sets of activities that consolidate various forms of cultural expressions into one event.
Ceremonial	A system of several rites connected with a single occasion.
Myth	A dramatic narrative of imagined events, usually used to explain origins or transformations.
Saga	A historical narrative describing the unique accomplishments of a group and its leaders.
Symbol	Any object, act, event, or reaction that serves as a vehicle for conveying meaning.
Language	A particular form or manner in which members of a group use vocal sounds and written signs to convey meanings to each other.
Artifact	Material objects manufactured by people to facilitate culturally expressive activities.

Source : Harrison M. Trice and Janice M. Beyer, " Studying Organizational Culture Through Rites and Ceremonials," *Academy of Management Review* 9.

### 2.5.2.3 How Culture Affects The Organization :

There are three aspects of culture's effect on organizations : direction, pervasiveness, and strength.

i- Direction : which refers to the way in which culture affects goal achievement. It can direct the organization toward its goals or away from them by either exerting a positive or negative influence on behavior and accomplishment.

ii- Pervasiveness : which refers to the degree to which members of the same group share a culture. As mentioned earlier, widespread adoption characterizes a thick or pervasive culture, while thin culture is said to be nonpervasive.

iii- Strength : which refers to the impact of culture on members. Some cultures may have a compelling force over their members ( religious sects ), while others may be temporary and have a weak effect ( collection of people an a flight ).

#### 2.5.2.4 Cultural Flexibility And Commitment :

First, concerning flexibility, it is crucial for the management to work hard in order to ensure that their organization's culture remains flexible and ready for any changes in the internal or external environments.

Jay Lorsch suggests several ways that can be used to maintain the flexibility of an organization's culture. One technique involves creating senior management positions whose role is to continuously evaluate the existing elements in the culture and have them ready for any change. Bringing in an outside senior manager to provide a new spirit is another way to prevent a frozen culture. Further, flexibility can be encouraged by cross training, where managers learn the jobs of other managers.

Concerning commitment, culture can play a great role in the attainment of the organizational commitment which is a necessary condition for long-term group survival. Commitment can be defined as a condition in which members of a group give their abilities and loyalties to the organization and the pursuit of its goals in return for satisfaction. Here, member and organizational interests are clearly identified, and there is a mutual benefit for the organization and its members. Culture contains many elements of reinforcement to help achieve organizational commitment. Such reinforcers can be positive in the form of different rewards, or negative such as putting a new manager under a probation period for not being committed to the organization's mission.

### 2.5.3 Corporate Restructuring :

Corporate restructuring takes place whenever an organization attempts to redesign its workplace or even the whole organization to ensure that its internal processes are consistent with environmental demands and conditions.<sup>24</sup> This includes work redesign and organizational redesign. Both kinds are said to influence any company's strategy for training and education.

#### 2.5.3.1 The Concept of Change :

Change can be simply defined as the continuous alteration of the status quo. During change, no moment is exactly like the one that preceded it. However, for the purpose of this study, it is useful to discuss that kind of change that has a significant impact on organizational operation. This change may be generated in the environment (exogenous change) or it may be generated from within the organization (endogenous change). For example, a new pollution control law will cause the organization to change so that it can deal with the law. This change is considered exogenous since it is generated in the environment.

It is very important for any organization to understand the source of change because this enables it to understand the reason behind the change as well as its intensity, permanency, and the factors that caused it.

### 2.5.3.2 The Dilemma with Organizational Change :

There is evidence that organizations face a dilemma with respect to change. On the one hand, organizations want to change in order to remain competitive, adopt new more effective technology and methods, and stay in harmony with their environment. On the other hand, organizations sometimes resist change because they desire stability. ( eg. stable output ) and predictability ( eg. predictable costs ).

### 2.5.3.3 The Impact of Change on The Organization :

Organizational change can be classified as to the impact it may have on the organization. Change can affect the task, structure, technology, or people in the organization. First, concerning the task the change will be dependent on the opportunities and threats that exist in the environment and on the philosophy and basic strategy that pervade the organization. This includes changes in the work methods and processes, employee involvement, or quality management practices. Second, structure may be changed as a result of organization growth or retrenchment. Organization growth forces the organization to add certain departments or establish additional divisions. However, retrenchment involves actions such as shutting down some operations, combining operating units, selling off business units, laying off a



substantial number of workers, or reducing management staff significantly. Third, concerning technology change here strongly affects the tools and operations of a firm; for example, the changes that occurred in the computer industry when small micro processing chips were developed. Finally, people, the actors, in the organization are obviously affected by change. this change usually occurs as a result of general changes occurring in the environment.

#### 2.5.3.4 Stages in the Change Process :

Fig.2 shows the different stages in the change process that the organization must pass through in order to adopt or cope. The first step in the process is stress which is the result of an internal or external problem. This stress then, becomes a source for change which in turn causes the management to enter the perceiving and assessment stage in which the type of change is determined in addition to its importance to the organization and its speed. In the planning and analysis stage, the management group decides on a given way to deal with the change ( eg. stop it, redirect it, or ignore it ). The fifth step involves the specification of change goals which are the results to be achieved with the change. It may be to reduce costs, increase sales, or reduce the number of employees. After determining the goals, the organization's moves towards determining the tactics and activities that are necessary to achieve the goals. Once these activities have been decided on, the organization must focus on changing the behavior of its employees by unlearning old ways and learning new ways of doing things. The eighth step involves implementing change on an experimental basis so that the

organization can determine the impact of change on a sample of employees. After such experiments, a thorough evaluation should be made taking into consideration the technical side of change as well as the attitudes of employees involved in the change. After the evaluation, steps should be taken to read-just the change if needed, and that change should be implemented in the rest of the organization. After this full implementation, there should be a continuous evaluation to see whether the original goals are being met. In the final stage, a refreezing of behavior should take place since change is now a part of the daily activity and not something new or unusual.

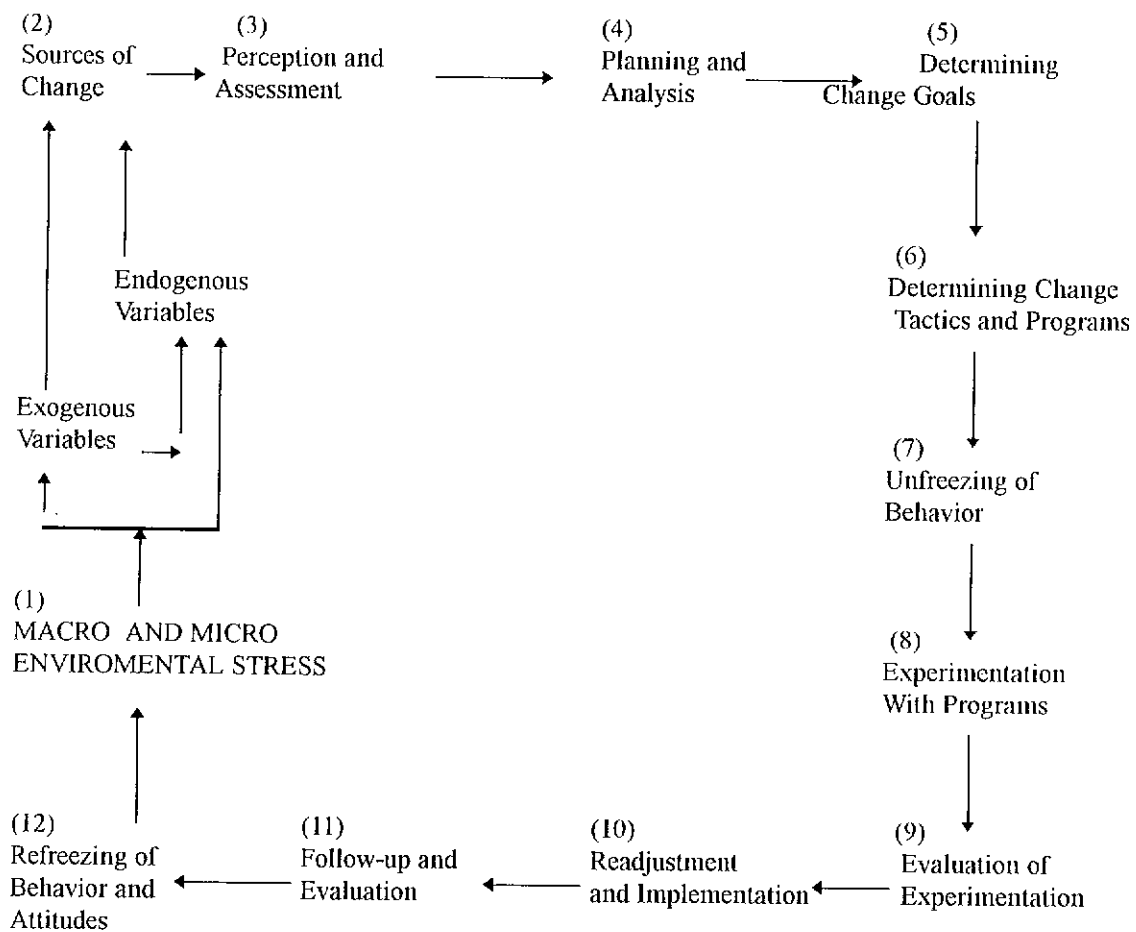


Figure2. The Change Process.

#### 2.5.3.5 Strategies to Cope with External and Internal Change :

Here follows some of the actions that an organization can take in order to cope with change and maintain its healthiness and competitiveness.

- 1 ) Know and forecast : By using internal and external scanners, the organization can observe the kind of change occurring within the organization or in the environment so that it can properly plan for managing it.
- 2 ) Initiate : Here the organization tries to start the change by initiating and implementing, for example, a new product, a new information system or a new performance appraisal system.
- 3 ) Amplify : An organization may choose to amplify change or encourage it through suggestion systems or other methods.
- 4 ) Smooth : Here the organization attempts to protect itself by controlling the rate of change and reducing its variations.

5 ) Stop : Sometimes, organizations choose to stop change by developing a climate that discourages it and even penalize those who encourage it. This happens whenever change is considered as detrimental to the organization's interests.

## NOTES

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## **CHAPTER III**

### **RESEARCH DESIGN AND METHODOLOGY**

#### 3.1 THE BASIC APPROACH

This research has been conducted to examine the Lebanese corporate policies on education and training and the major factors that shape these policies. Furthermore, this study intends to assess the impact of four different forces on the Lebanese company priorities concerning its education and training strategies.

The forces are :

- 1- The company size.
- 2- Workforce composition.
- 3- Management culture.
- 4- Work redesign and restructuring.

### 3.2 SOURCES OF INFORMATION AND RESEARCH DESIGN.

The sources of data gathered for this research are employees working in Lebanese companies involved in different business sectors such as banking, merchandising, utility etc...

The basic design technique used in order to collect data for this study is the survey technique. This survey requires asking respondents for information using written questioning. For this purpose, a specific questionnaire has been developed and utilized in order to collect the necessary data. This questionnaire is divided into four sections in addition to Demographic Characteristics. These sections cover the necessary factors related to the Company Education and Training Practices, Company Size, Workforce Composition, Culture, and Work Redesign and Restructuring (see Appendix A).

### 3.3 SAMPLE AND DATA COLLECTION.

One hundred questionnaires were prepared. However, only 72 questionnaires were completed and returned. The respondents providing the data base for this study came from a group of Lebanese organizations belonging to different economic sectors. Furthermore, these respondents belong to a wide spectrum of management levels and functional areas.

### 3.4 RESEARCH VARIABLES.

As shown in the questionnaire, excluding Demographic Characteristics, there are four measurable variables in this study.

#### 3.4.1 Demographic Variables.

The demographic part included single item questions to determine respondent's age and gender, years of education, and years spent in this organization. In addition, questions were posed to inquire about the respondent's class of work and his / her level in the organization's hierarchy. Concerning the class of work, four classes were used : managerial work, line operative work, staff operative work, and other to specify. However, the respondent's position in the hierarchy level varied from operative, supervisor, department head, vice president, and other to specify. Moreover, a question was asked about the functional area to which the respondent belongs. Eleven categories were used : accounting, finance, marketing, general management, personnel, information system, production, engineering, sales, R & D, and other to specify. Furthermore, the education level of the respondents was determined by a question in which seven ranks were used from a level less than high school to Ph.D. Finally, the primary organization's business varied



from manufacturing, utility, merchandising, public sector, health care, insurance, educational, financial services and other to specify.

### 3.4.2 Company Education and Training Practices.

Company education and training practices were measured by asking the respondents to indicate their agreement, uncertainty, and disagreement with statements related to employee skills level, basic skills education, retraining, training budget, employee-school contact, educational courses and support programs, and others. Each statement was responded according to a five-point Likert-type scale ranging from (1) strongly disagree to (5) strongly agree.

### 3.4.3 Company Size and Workforce Composition.

Concerning company size, single item questions were asked to determine the total number of employees in the organization, approximate market share of the company, number of branches, and number of product lines. Concerning workforce composition, two single item questions were posed. The first is about the percentage of white-collar ( managerial level ) and the second is about the percentage of employees with college education.

#### 3.4.4 Culture.

This section is used to assess the impact of management culture on education and training activities. The respondents were asked to circle one number of each statement which reflects mostly his / her desired response. These statements were related to the company's adoption of new policies or programs, company's resistance to change, company's innovation commitment, cultural manifestations, and others. Again, each statement was responded according to a Likert type scale ranging from (1) strongly disagree to (5) strongly agree.

#### 3.4.5 Work Redesign and Restructuring

The impact of work redesign and restructuring on education and training practices was measured by asking respondents to indicate their agreement or disagreement with statements related to work methods and processes, employee involvement, quality programs, and a class of actions that contains shutting down operations, combining business units, reducing management staff, selling off some business units, and others. The scale used is the same as in the section regarding "Culture".

### 3.6 DATA ANALYSIS.

Data gathered was analyzed using the facilities of the Statistical Package For Social Sciences (SPSS). The data were sorted and tabulated for certain combinations of numbers related to specific research variables .

## **CHAPTER FOUR**

### **RESEARCH FINDINGS**

#### 4.1 OVERVIEW

It is becoming more evident that work all over the world is changing. The competition for information and services is increasing, technology is changing rapidly, and the advances in knowledge are rendering many skills obsolete. This dynamic climate makes the skills of the workforce the most important. For this reason, corporate training and education are becoming a necessary investment in the human resources of any country. Any organization that seeks a higher level of productivity for the future has no choice but to provide the necessary skills requirements, and providing such requirements can not be achieved in the absence of training and education.

As mentioned in Chapter one, the purpose behind conducting this study is examining whether the Lebanese companies are aware of the importance of training and education in keeping their workforce updated and always ready to adopt any changes. In addition, this study tends to test and assess the

impact of company size, workforce composition, management culture, corporate restructuring and other demographic variables upon education and training practices in Lebanon.

The Lebanese companies are hoping and waiting for an economic boom especially in the presence of the foreign investments in various economic sectors. This may be considered a sign of optimism of a better future in which an increase of productivity will be the major concern of the Lebanese employers. Hence, this study is necessary in order to test whether the Lebanese companies are ready to face this increase in productivity with an increase in training and educating their workforce.

In Chapter one , it was mentioned that this research intends to study the following hypotheses:

- 1-Educational and training practices are well implemented in the Lebanese organizations.
- 2-Factors such as company size, workforce composition, management culture, and work redesign and restructuring are most likely to be associated to the variability in training and educational practices.

## 4.2. PROFILE OF RESPONDENTS

Through examining the general characteristics of the 72 respondents, the frequency and percentage method was used here for measuring these characteristics, and they are presented in the following table.

Table 4.1

Class of work	Frequency	Valid Percent	Cum. Percent
Managerial work	34	47.2	47.2
Line operative work	16	22.2	69.4
Staff operative work	18	25.0	94.4
Other	4	5.6	100.0
Total	72	100.0	
Functional Area	Frequency	Valid Percent	Cum. Percent
Accounting	9	12.5	12.5
Finance	12	16.7	29.2
Marketing	6	8.3	37.5
General Management	12	16.7	54.2
Personnel	2	2.8	56.9
Information System	5	6.9	63.9
Production	1	1.4	65.3
Engineering	5	6.9	72.2
Sales	7	9.7	81.9
R&D	2	2.8	84.9
Other	11	15.3	100.0
Total	72	100.0	
Hierarchy Level	Frequency	Valid Percent	Cum. Percent
Operative	28	38.9	38.9
Supervisor	18	25.0	63.9
Department Head	13	18.1	81.9
Vice President	3	4.2	86.1
Other	10	13.9	100.0
Total	72	100.0	

Years In Organization	Frequency	Valid Percent	Cum. Percent
1	24	33.3	33.3
2	19	26.4	59.7
3	11	15.3	75.0
4	4	5.6	80.6
5	4	5.6	86.1
6	2	2.8	88.9
8	2	2.8	91.7
10	2	2.8	94.4
12	1	1.4	95.8
17	1	1.4	97.2
35	1	1.4	98.6
36	1	1.4	100.0
Total	72	100.0	
Education Level	Frequency	Valid Percent	Cum. Percent
Less Than High School	1	1.4	1.4
High School	0		
Former College Student	1	1.4	2.8
Bachelor Degree	49	68.1	70.8
M.S.	19	26.4	97.2
Ph. D.	0		
Other	2	2.8	100.0
Total	72	100.0	

Age	Frequency	Valid Percent	Cum. Percent
22	5	6.9	6.9
23	7	9.7	16.7
24	11	15.3	31.9
25	9	12.5	44.4
26	7	9.7	54.2
27	4	5.6	59.7
28	2	2.8	62.5
29	3	4.2	66.7
30	5	6.9	73.6
32	1	1.4	75.0
33	2	2.8	77.8
34	3	4.2	81.9
35	3	4.2	86.1
36	1	1.4	87.5
37	1	1.4	88.9
38	1	1.4	90.3
40	1	1.4	91.7
45	1	1.4	93.1
47	1	1.4	94.4
50	1	1.4	95.8
54	2	2.8	98.6
55	1	1.4	100.0
Total	72	100.0	
Gender	Frequency	Valid Percent	Cum. Percent
Male	47	65.3	65.3
Female	25	34.7	100.0
Total	72	100.0	

Results have shown that respondents belonged to four classes of work and eleven functional areas. However, the majority of these respondents belonged to the general management, finance, and accounting departments. Concerning the respondents' level in the organization's hierarchy, the majority of them belonged to operative and supervisor levels. Furthermore, 75% of these respondents have spent between 1 and 3 years in the organization. Concerning the education level, one can conclude that the majority hold a



Bachelor degree. The frequency distribution of the respondents' age shows that 73.6% of them aged between 22 and 30 years, and the mean was 29.22. Finally, concerning the respondents' gender, the majority (65.3%) were males, while the percentage of females was 34.7%.

#### 4.3 PROFILE OF ORGANIZATIONS

The characteristics of the organizations to which the respondents belonged were examined by inquiring the primary organization's business, the total number of employees, the market share of the company, the number of branches, the number of product lines, percentage white-collar, and percentage college education.

Table 4-2 shows the frequency distribution of the respondents' primary organization's business.

Table 4-2  
Primary Organization's Business

Organization's Business	Frequency	Valid Percent	Cum. Percent
Manufacturing	4	5.6	5.6
Utility	5	6.9	12.5
Merchandising	11	15.3	27.8
Public Sector	3	4.2	31.9
Health Care	3	4.2	36.1
Insurance	2	2.8	38.9
Educational	7	9.7	48.6
Financial Services	20	27.8	76.4
Other	17	23.6	100.0
Total	72	100.0	

Table 4-3  
Total Number of Employees

Range	Frequency	Valid Percent	Cum. Percent
0--50	16	24.2	24.2
51--125	8	12.2	36.4
126--4500	42	63.6	100.0
N.A.	6		
Total	72	100.0	

Mean                    526.379

The size of the organizations ranged from 6 employees to 4500 employees. These organizations were divided into three groups. Those having below 51 employees could be considered as small organizations, from 51 to 125 as medium, and above 125 employees as big organizations. Table 4-3 shows the frequency distribution of the ranges. The mean, which is equal to 526.379 employees, implies that the companies are mainly big ones.

As shown in table 4-4, the market share of the companies ranged from 3% to 80% . Again the mean (29.563) indicates that the organizations examined were huge ones.

Table 4-4  
Market Share of The Company

Range	Frequency	Valid Percent	Cum. Percent
3—25	16	50.0	50.0
26—50	12	37.5	87.5
51—80	4	12.5	100.0
N.A.	40		
Total	72	100.0	

Mean                    29.563

Table 4-5  
Number of Branches

Range	Frequency	Valid Percent	Cum. Percent
1—10	35	59.3	59.3
11—25	9	15.3	74.6
26—36	15	25.4	100.0
N.A.	13		
Total	72	100.0	

Mean            12.898

Table 4-5 presents the frequency distribution of the number of branches of each company. As shown, the majority of companies have less than 10 branches.

Table 4-6  
Number of Product Lines

Range	Frequency	Valid Percent	Cum. Percent
1—5	21	60.0	60.0
6—15	8	22.9	82.9
16—200	6	17.1	100.0
N.A.	37		
Total	72	100.0	

As shown in Table 4-6, the number of product lines of the companies examined ranged from 1 to 200 product lines. However, the bulk of companies have less than 5 product lines, and about 43% have specifically 1 product line.

Table 4-7  
Percentage White-collar

Range	Frequency	Valid Percent	Cum. Percent
4—25	23	54.8	54.8
26—50	6	21.4	76.2
51—75	3	7.1	83.3
76—100	10	16.7	100.0
N.A.	30		
Total	72	100.0	

Mean 35.81

Table 4-7 presents the frequency distribution of the percentage of white-collar employees that existed in each company. The mean of 35.81 shows that the examined companies are considered companies with a primarily blue-collar workforce.

Table 4-8  
Percentage College Education

Range	Frequency	Valid Percent	Cum. Percent
0 - 25	11	20.0	20.0
26 - 50	7	12.7	32.7
51 - 75	10	18.2	50.9
76 - 100	27	49.1	100.0
N.A.	17		
Total	72	100.0	

Mean 63.00

Table 4-8 presents the frequency distribution of the percentage of college educated employees found in each company. As shown the bulk of the companies had more than 50% college graduates among their employees. This fact is reflected by the mean of 63.00.

#### 4.4 COMPANY EDUCATION AND TRAINING PRACTICES IN THE LEBANESE ORGANIZATIONS

This section is used to assess and test whether these practices are well implemented in the Lebanese organizations. The respondents were asked to circle one number of each statement which corresponds mostly to their desired response. Each statement was responded according to a five-point Likert-type ranging from (1) Strongly disagree, to (5) Strongly agree, and (3) as undecided.

Fourteen statements were stated and the frequency for each response is presented in the following tables.

Table 4-9

##### Company Education & Training Practices

1-Determining training needs for human resources occurs at an individual level.

Value	Frequency	Valid Percent	Cum. Percent
1	6	8.3	8.3
2	20	27.8	36.1
3	9	12.5	48.6
4	29	40.3	88.9
5	8	11.1	100.0
Total	72	100.0	

Mean            3.181  
Std Dev            1.202

Table 4-9 shows that approximately half of the respondents agreed that the training needs are determined at an individual level.

Table 4-10  
Company Education & Training Practices  
2-There is always a determination of the employee skills level.

Value	Frequency	Valid Percent	Cum. Percent
1	2	2.8	2.8
2	14	19.4	22.2
3	10	13.9	36.1
4	39	54.2	90.3
5	7	9.7	100.0
Total	72	100.0	

Mean            3.486  
Std Dev        1.007

Table 4-10 reflects that 63.9% of the respondents agreed that there is always a determination of the employee skills level.

Table 4-11  
Company Education & Training Practices  
3-There is trouble in recruiting college graduates.

Value	Frequency	Valid Percent	Cum. Percent
1	7	9.7	9.7
2	28	38.9	48.6
3	14	19.4	68.1
4	13	18.1	86.1
5	10	13.9	100.0
Total	72	100.0	

Mean            2.875  
Std Dev            1.233

Table 4-11 shows that approximately half of the respondents disagreed with the idea that there is trouble in recruiting college graduates.

Table 4-12  
Company Education & Training Practices  
4-Basic skills education is frequently supplied.

Value	Frequency	Valid Percent	Cum. Percent
1	4	5.6	5.6
2	11	15.3	20.8
3	14	19.4	40.3
4	33	45.8	86.1
5	10	13.9	100.0
Total	72	100.0	

Mean            3.472  
Std Dev            1.087

Table 4-12 shows that the majority of respondents (59.7%) agree that basic skills education is supplied in their companies.

Table 4-13  
Company Education & Training Practices  
5-The company tends to keep the employees skills current.

Value	Frequency	Valid Percent	Cum. Percent
1	1	1.4	1.4
2	11	15.3	16.7
3	20	27.8	44.4
4	31	43.1	87.5
5	9	12.5	100.0
Total	72	100.0	

Mean            3.5  
Std Dev            .949

A mean of 3.5 implies that more than half of the respondents work in companies that tend to keep their skills current.

Table 4-14  
Company Education & Training Practices  
6-There is always an expected increase in training.

Value	Frequency	Valid Percent	Cum. Percent
1	2	2.8	2.8
2	11	15.3	18.1
3	18	25.0	43.1
4	35	48.6	91.7
5	6	8.3	100.0
Total	72	100.0	

Mean            3.444  
Std Dev            0.948

Table 4-14 shows that 59.9% of respondents agreed that an increase in training is always expected in their organizations.

Table 4-15  
Company Education & Training Practices  
7-The frequency of retraining is high.

Value	Frequency	Valid Percent	Cum. Percent
1	4	5.6	5.6
2	21	29.2	34.7
3	18	25.0	59.7
4	24	33.3	93.1
5	5	6.9	100.0
Total	72	100.0	

Mean            3.069  
Std Dev            1.066

As shown in Table 4-15, concerning the frequency of retraining, the respondents were almost neutral with a mean of 3.069. This implies that there is a kind of unawareness concerning this issue.

Table 4-16  
Company Education & Training Practices  
8- The company has assigned the right budget for training.

Value	Frequency	Valid Percent	Cum. Percent
1	5	6.9	6.9
2	20	27.8	34.7
3	22	30.6	65.3
4	20	27.8	93.1
5	5	6.9	100.0
Total	72	100.0	

Mean            3  
Std Dev            1.061

Table 4-16 shows that the statement concerning the training budget provides 100% neutral answers by the respondents with a mean of 3.



Table 4-17  
 Company Education & Training Practices  
 9-Training is considered essential toward better productivity.

Value	Frequency	Valid Percent	Cum. Percent
1	1	1.4	1.4
2	3	4.2	5.6
3	2	2.8	8.3
4	27	37.5	45.8
5	39	54.2	100.0
Total	72	100.0	

Mean            4.389  
 Std Dev            0.848

As shown in Table 4-17, 91.7% of the respondents agreed that training is considered essential toward better productivity with a mean of 4.389.

Table 4-18  
 Company Education & Training Practices  
 10-Training is considered an asset for the company.

Value	Frequency	Valid Percent	Cum. Percent
1	3	4.2	4.2
2	3	4.2	8.4
3	4	5.6	13.9
4	32	44.4	58.3
5	30	41.7	100.0
Total	72	100.0	

Mean            4.153  
 Std Dev            1.002

Table 4-18 shows that the majority of respondents (86.1%) agreed that training is considered an asset for the company.

Table 4-19  
 Company Education & Training Practices  
 11- The company encourages employee-school contact.

Value	Frequency	Valid Percent	Cum. Percent
1	5	6.9	6.9
2	15	20.8	27.8
3	29	40.3	68.1
4	16	22.2	90.3
5	7	9.7	100.0
Total	72	100.0	

Mean            3.069  
 Std Dev        1.053

Here the respondents are more neutral to this issue with a mean of 3.069.

Table 4-20  
 Company Education & Training Practices  
 12- Educational courses are always available to improve the employees' abilities.

Value	Frequency	Valid Percent	Cum. Percent
1	3	4.2	4.2
2	17	23.6	27.8
3	8	11.1	38.9
4	31	43.1	81.9
5	13	18.1	100.0
Total	72	100.0	

Mean            3.472  
 Std Dev        1.162

As shown in Table 4-20, 61.2% of respondents agreed that educational courses are always available so that they can improve their skills.

Table 4-21  
Company Education & Training Practices

13- An educational support program is available to help with employees education.

Value	Frequency	Valid Percent	Cum. Percent
1	5	6.9	6.9
2	19	26.4	33.3
3	16	22.2	55.6
4	20	27.8	83.3
5	12	16.7	100.0
Total	72	100.0	

Mean            3.208

Std Dev            1.210

Table 4-21 shows that 44.4% of respondents agreed with the presence of an educational support program in their companies to help them with their education. However, 33.3% disagreed and 22.2% were undecided.

Table 4-22  
Company Education & Training Practices

14- The company is aware of the risks that non-education may cause.

Value	Frequency	Valid Percent	Cum. Percent
1	3	4.2	4.2
2	9	12.5	16.7
3	15	20.8	37.5
4	26	36.1	73.6
5	19	26.4	100.0
Total	72	100.0	

Mean            3.681

Std Dev            1.124

Here the findings indicate that the majority of the companies (62.5%) were aware of the risks of non-education with a mean of 3.681.

As shown in the above findings, the respondents accepted the majority of the statements presented with means sometimes exceeding 3.5. The majority of respondents seemed to come from companies that usually

determine their employees skills level so that they can keep these skills current and updated. Moreover, basic skills education, like reading and writing or computation skills, are frequently supplied in these companies. Statements 9&10 indicate approximately a pure agreement on the idea that training is considered an asset for the company and very essential toward better productivity. Furthermore, the findings indicate that the majority of the companies are aware of the risks that non-education may cause and they tend to present educational courses in order to improve their employees' abilities. However, a major part of these companies seemed to be lacking an educational support system. Concerning the budget assigned for training, the related statement has provided 100% neutral answers by the respondents, which may imply an unawareness of this important issue or that the respondents are not allowed to disclose that issue. Finally, concerning the problems in hiring qualified personnel, half of the respondents rejected the presence of such problems, however, 32% of them agreed that their companies are facing problems in recruiting college graduates.

#### 4.4.1 Relationship between educational and training practices and culture

In this study, the relationship between educational and training practices and other variables was examined by using cross-tabulation. This form of analysis is a joint frequency distribution of two or more sets of variables, and it allows for determination of the form of relationship between these variables. The chi-square distribution provides a means for testing the

statistical significance of cross tabulation, and this kind of distribution is used in this study.

Upon cross-tabulating educational and training practices by management culture, it was evident that the two variables were statistically related at the .05 level of statistical significance, since the significance of the chi-square test was 0.0343 which is less than 0.05(table 4-23). This implies that corporate investments in education and training can be expected to vary with the culture of company management. For example, companies with more innovative cultures and less cultural resistance to making change should, other factors being equal, have fewer problems in recruiting college graduates, tend to keep employees skills current, have a higher frequency of retraining and are aware of the risks that non-education may cause.

Table 4-23

Chi-Square	D.F.	Significance	Min. E.F.
635.09142	572	0.0343	0.014

#### 4.4.2 Relationship between educational and training practices and company size

This relationship was examined by cross-tabulating EDTRP by TNEMPL. Again, the chi-square distribution was used to test whether these variables are interrelated. After the process of cross-tabulation, the significance of this test was 0.0419 and this showed that the two variables are

related at the 0.05 level of significance (see Table 4-24). This may imply that as the number of employees increases, other factors being equal, the investments of the company in training and education practices may increase. For example, the budget for training may be larger in larger companies. In addition, the company may increase its efforts to help its employees in continuing their education so that they can improve their abilities and eventually their productivity.

Table 4-24

Chi-Square	D.F.	Significance	Min. E.F.
1120.16664	1040	0.0419	0.015

#### 4.4.3 Relationship between educational and training practices and "Years in Organization"

The relationship between the number of years that the respondents have spent in their organizations and the education and training practices of these organizations was also examined using the chi-square test. Again, the significance of this test ( .0026 ) appears to be less than 0.05 which shows that the two variables are related at this level of significance(see Table 4-25). This may imply that as the number of years spent by an employee in his organization increases, other factors being equal, the employee development becomes a significant activity in these organizations as they retrain their employees to keep their skills current.

Table 4-25

Chi-Square	D.F.	Significance	Min. E.F.
386.51467	312	0.0026	0.014

4-5 REGRESSION ANALYSIS : Building a Regression Equation for the  
Dependent Variable “Education and Training Practices”

Regression analysis is a technique that attempts to predict the value of a continuous, interval scaled dependent variable from the specific values of the independent variable. The dependent variable is the variable whose variation is likely to be explained, and the independent variable is the at used to explain the variation in the dependent variable.

In building a regression equation with EDTRP being the dependent variable, first it was necessary to examine the relationship between each independent variable and this dependent variable. The independent variables are the organization's business, total number of employees, market share of the company, number of branches of the company, number of product lines, percentage of white-collar, percentage college education, management culture, and work redesign and restructuring.

The only independent variable entered to the regression equation was management culture (CULINF). Table 4 -26 shows the results of the first regression output at 0.05 level of significance.

Table 4-26  
Regression Output Dependent Variable = EDTRP

Variable (s) Entered on Step Number			
1 ....	CULINF		
Multiple R	.57140		
R Square	.32650		
Adjusted R Square	.31688		
Standard Error	.42236		
Analysis of Variance			
	D F	Sum of Squares	Mean Square
Regression	1	6.05362	6.05362
Residual	70	12.48720	.17836
F= 33.93503		Signif. F= .0000	

#### 4-5-1 Significance of the regression equation

In the preceding output,  $R^2$ , The coefficient of determination, is equal to .32650. This implies that 32.65% of the variation in education and training practices could be explained by the management culture factor.



BY using the analysis of variance, the significance of the regression equation is tested using the F-Distribution. Comparing the critical F value (0.0000) to the level of significance used (0.05), it could be concluded that the regression model is significant.

#### 4.5.2 Significance of Variables

The significance of the independent variable included can be tested by using the T test. Table 4-27 presents the Beta coefficients and the test for significance of the independent variable.

Table 4-27

Beta Coefficients and the Test for Significance of the Independent Variable

Variable	B	Beta	T	Sig.T
CULINF .0000		0.51426		5.825
(constant) .0000	1.74364	0.57140		5.941

The Significance is achieved if the Significant T is less than the level of Significance used (0.05). As shown in Table 4-27, the Significant T is equal to .0000 and it is less than 0.05. Hence, we can conclude that CULINF is a Significant variable, and a Significant relationship exists between this variable and the dependent variable EDTRP.

#### 4.5.3 Interpretation of the Equation

The regression equation that could be built for predicting Education and Training Practices is:

$$\text{EDTRP} = 1.74364 + 0.57140 \text{ CULINF}$$

(0.0000)    (0.0000)

This equation could be easily interpreted. The value of Beta, 0.57140, indicates that for each added value in CULINF, Education and Training Practices would directly vary by the value of 0.57140. In addition, there is evidence that the linear relationship between RDTRP and CULINF is positive because of the positive sign of the Beta coefficient. The higher the influence of culture in a specific organization, the higher would be the emphasis on education and training activities. This may indicate that as the company's culture grows thicker and thicker by having a specific business language, a definite logo, an effective slogan and a long history, as its education and

training practices increase so that the employees skills are kept current and always updated. Moreover, an organization with a management that encourages adopting new policies and programs and committed to innovation, may stress on presenting educational courses and programs in order to improve its employees abilities toward better productivity.

#### 4.5.4. Conclusion Summary

After using multiple regression analysis to assess the forces that tend to shape the Lebanese company priorities in its education and training efforts, only management culture appeared to be associated with the variability in these activities. This may indicate that the management's philosophy and outlook on change, and its various cultural manifestations could influence the company's attitude concerning its education and training strategies.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### 5.1 SUMMARY AND CONCLUSIONS

As mentioned earlier , the real purpose behind conducting this study is examining whether educational and training practices are well implemented in the Lebanese organizations. In addition, this study intends to highlight the major forces that tend to shape these practices. After completing and analyzing the findings of this study in chapter four , it is time now to present the major conclusions derived from these findings.

This study has shown that the majority of the Lebanese companies care for determining the skills level of their employees. This may help in the assessment of the training needs so that training will be appropriately directed. Moreover, this step can determine whether the human resources can

provide the knowledge , abilities , and other personal attributes that are necessary for their job performance . Another major finding is that more than half of the Lebanese companies tend to keep the skills of their employees current. In addition , a high percentage of these companies provide an atmosphere in which an increase in training is always expected. The findings presented above can be directly interrelated. For keeping the employees' skills current requires a continuous determination of the level of these skills in addition to increasing the training practices when necessary. Moreover , about 60% of the surveyed organizations present basic skills training for their employees. This may imply that the majority of the Lebanese companies have a clear tendency toward providing certain forms of literacy which include skills in reading , writing, computation, and solving problems.

This study also affirms that training in Lebanon is considered essential toward better productivity. There is evidence that about 92% of the surveyed companies agree that training is the core of success of their business and that the employee should be trained in order to achieve better performance and higher productivity. Furthermore, 86% of the surveyed organizations consider training an important asset for them. This finding may reflect the management's belief that people are one of the most important resources available and that their knowledge must be kept updated.

Another major finding in this study is that 62.5% of the surveyed corporations are aware of the risks that non-education may cause. This is reflected in the fact that the majority of these corporations present educational courses to help their employees improving their abilities. However, a large

number of these companies lack an educational support program to assist with the employees education.

The study has also shown that 32% of the surveyed companies report significant difficulties in recruiting college graduates. This may imply that a part of the college graduates and after reaching the recruitment interview are deemed to lack the skills necessary for entry level positions.

Concerning the budget assigned for training, the Lebanese employees appear to be indifferent concerning this important issue. This may indicate that a real management support for training activities is still not found in the Lebanese organizations.

We have also seen in this study that an education and training strategy is shaped by management culture and the size of the company. When a company's management creates an innovative climate for human resources practices, it retains a larger number of its current workers and tends to keep their skills current. Also, as the number of employees in a company increases, as education and training investments increase. These relationships were examined by using cross-tabulation. Moreover, using the same technique, the number of years spent by an employee in his organizations appears to be related to the variability in training and education practices.

Finally, multiple regression analysis is used to identify and assess the factors that are most likely to be associated with the variability in education and training activities in the Lebanese organizations. Here, education and training activities are considered the dependent variable, and the factors that affect them are considered independent. One regression equation was built

and the only independent variable entered to this equation was management culture. The coefficient of determination, R square, is 32.65% indicating that 32.65% of the variation in education and training activities could be explained by management culture. This may imply that the greater the influence of culture in a specific company, the higher would be the emphasis on educating and training the employees of that company.

## 5.2 RECOMMENDATIONS

Based on the expertise acquired while performing this study in addition to the major findings, the following recommendations may be raised;

1- Lebanese companies should be effective communicating the skills they need to education providers. This may fill the gap between the employer needs and college performance and hence will minimize the difficulties in recruiting college graduates.

2- Lebanese organizations should assign the right budget for training and education since they believe that these two tools are the core of better productivity.

3-Top management should be committed to availing better training support for personnel.

4- There should be an effective educational support program in the Lebanese corporation in order to help with employees education.

5-The importance of training and education should be reflected in the mission statements of the Lebanese companies.

6-Finally, the Lebanese organizations should try to maintain a management culture that encourages adopting new policies and programs and is less resistant to change. This may positively influence the company policies on education and training. Moreover, there should exist specific cultural manifestations such as a definite logo or an effective slogan. This may force the company to be always committed to presenting education and training programs in order to improve the employees abilities toward better productivity.

### 5.3 LIMITATIONS OF THE STUDY

This study has a number of limitations that could be presented as follows:

1-The cases for some statements in the questionnaire were coded three, as indifferent, which might affect the application of the multiple regression analysis.

2-This kind of research has not been conducted before to make a comparison between findings.

3-This kind of research utilizes a small sample, which may not be representative because it has not been selected on a probability basis.



Appendix A : The Questionnaire

Dear Employee,

This questionnaire is part of a graduate research that seeks to provide information about corporate training and education practices in Lebanon, and to assess the impact of company size, workforce composition, culture, and restructuring on these practices. Your responses will be confidentially treated and discarded after data analysis is completed.

Your help and cooperation in completing this questionnaire would highly contribute to the results of this project. Thank you in advance for your precious time and help.

Yours Sincerely,  
Khaled B. Rajeh  
Student, Master Program  
Business Management  
School of Business  
Lebanese American University

Part I Demographic Characteristics

These questions are about your background and work experience.

1- What is your class of work ?

- ..... 1. Managerial work
- ..... 2. Line operative work
- ..... 3. Staff operative work
- ..... 4. Other .....

2- What is your functional area?

- ..... 1. Acctg                      ..... 5. Personnel                      ..... 9. Sales
- ..... 2. Finance                      ..... 6. Inf. system                      ..... 10. R&D
- ..... 3. Marketing                      ..... 7. Production                      ..... 11. Other
- ..... 4. Gen. Mgmt                      ..... 8. Engineering                      .....

3- What is your level in the organization's hierarchy?

- ..... 1. Operative                      ..... 3. Department head
- ..... 2. Supervisor                      ..... 4. Vice president
- ..... 5. Other.....

4- What is your primary organization's business?

- ..... 1. Mfg.                      ..... 5. Health care                      ..... 9. Other .....
- ..... 2. Utility                      ..... 6. Insurance
- ..... 3. Merchandising                      ..... 7. Educational
- ..... 4. Public sector                      ..... 8. Financial services

5- Years in organization .....

6- Education Level :

- ..... 1) Less than high school
- ..... 2 ) High school
- ..... 3 ) Former college student
- ..... 4 ) Bachelor degree
- ..... 5 ) MS degree
- ..... 6 ) Ph.D.
- ..... 7 ) Others ( Please specify ) : .....

7- Years of Education : .....

8- Age : .....

9- Gender :  Male  
 Female

Part II-

Company Education And Training Practices

This section is used to assess the company's education and training practices. Please circle one number of each statement which corresponds mostly to your desired response.

1= Strongly disagree

2= Disagree

3= Undecided

4= Agree

5= Strongly Agree

1- Determining training needs for human resources occurs at an individual level. 1 2 3 4 5

2- There is always a determination of the employee skills level. 1 2 3 4 5

3- There is trouble in recruiting college graduates. 1 2 3 4 5

4- Basic skills education is frequently supplied. (reading skills, writing skills, computation skills, or skills in solving problems). 1 2 3 4 5

5- The company tends to keep the employees skills current. 1 2 3 4 5

6- There is always an expected increase in training. 1 2 3 4 5

7- The frequency of retraining is high. 1 2 3 4 5

8- The company has assigned the right budget for training. 1 2 3 4 5

9- Training is considered essential toward better productivity. 1 2 3 4 5

10- Training is considered an asset for the company. 1 2 3 4 5

11- The company encourages employee-school contact. 1 2 3 4 5

12- Educational courses are always available to improve the employees' abilities. 1 2 3 4 5

13- An educational support program is available to help with employees education. 1 2 3 4 5

14- The company is aware of the risks that non-education may cause. 1 2 3 4 5

Part III-

Company Size And Workforce Composition

1- Total number of employees in the organization .....

2- Approximate market share of the company .....

3- Number of branches .....

4- Number of product lines .....

5- Percentage white - collar (Managerial level) .....

6- Percentage College education .....

Part IV-

Culture

This section is used to assess the influence of the company culture on education and training practices. Please circle one number of each statement which corresponds mostly to your desired response.

1= Strongly disagree

2= Disagree

3= Undecided

4= Agree

5= Strongly Agree

1- Our company is a leader in the adoption of new policies and programs. 1 2 3 4 5

2- Our company adopts policies only after they have proven effective. 1 2 3 4 5

3- We have a specific business language of our own. 1 2 3 4 5

4- We have a history which is considered long. 1 2 3 4 5

5- Our company has a clear resistance to change. 1 2 3 4 5

6- Our company considers making changes very costly. 1 2 3 4 5

7- There is always a problem in getting the attention of top management. 1 2 3 4 5

8- Our company is committed to innovating in the area of human resources. 1 2 3 4 5

9- Our company has a definite logo that signifies its direction and culture. 1 2 3 4 5

10- Our company uses an effective slogan to convey its values. 1 2 3 4 5

Part V-

Work Redesign And Restructuring

This section is used to assess the influence of work redesign and restructuring on education and training practices. Please circle one number of each statement which corresponds mostly to your desired response.

1= Strongly disagree

2= Disagree

3= Undecided

4= Agree

5= Strongly Agree

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1- The company usually changes its work methods and processes.           | 1 | 2 | 3 | 4 | 5 |
| 2- The company usually adopts job rotation programs                      | 1 | 2 | 3 | 4 | 5 |
| 3- The company usually changes quality management programs.              | 1 | 2 | 3 | 4 | 5 |
| 4- The company usually changes employee involvement.                     | 1 | 2 | 3 | 4 | 5 |
| 5- Decision - making procedures are not stable.                          | 1 | 2 | 3 | 4 | 5 |
| 6- There is always a tendency towards changing the reward system.        | 1 | 2 | 3 | 4 | 5 |
| 7- The company has recently shut down some of its operations.            | 1 | 2 | 3 | 4 | 5 |
| 8- The company has recently sold off some of its business units.         | 1 | 2 | 3 | 4 | 5 |
| 9- The company has recently laid off a substantial amount of workers.    | 1 | 2 | 3 | 4 | 5 |
| 10- The company has recently begun to offer early retirement incentives. | 1 | 2 | 3 | 4 | 5 |

11- The company has recently reduced management staff significantly. 1 2 3 4 5

12- The company is moving towards combining some of its business units. 1 2 3 4 5

13- The company is moving towards eliminating several management layers ( levels of supervision ). 1 2 3 4 5

14- The company is moving towards adopting a market-oriented strategy. 1 2 3 4 5

15- The company is moving towards decentralizing more authority at lower levels. 1 2 3 4 5

Would you like to add any suggestions that are not dealt with in the questionnaire ?

***Thank You Very Much  
For Your Time and Effort***



Appendix B : Computer Output

HALL

at more-on.

data list file='a:khaled.txt'/classwrk 1 funcarea 2-3 orglevel 4  
abus 5 yearorg 6-7 edlevel 8 yeared 9-10 age 11-12 gender 13  
trpi to edtrpi14 14-27 tncmp1 28-32 marketsh 33-35 nbranch 36-38  
lines 39-41 percwc 42-44 perccecd 45-47 culinf1 to culinf10 48-57  
rinf1 to wrinf15 58-72.

frequencies var=all/statistics=all.

the raw data or transformation pass is proceeding

72 cases are written to the uncompressed active file.

\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
There also may be up to 1528 Value Labels for each Variable.

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CLASSWRK

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	34	47.2	47.2	47.2
	2	16	22.2	22.2	69.4
	3	18	25.0	25.0	94.4
	4	4	5.6	5.6	100.0
	TOTAL	72	100.0	100.0	

Mean	1.889	Std Err	.115	Median	2.000
Std Dev	1.000	Std Dev	.972	Variance	.945
Skewness	-.933	S E kurt	.559	Skewness	.606
SE Skew	.283	Range	3.000	Minimum	1.000
Maximum	4.000	Sum	136.000		

Valid Cases 72 Missing Cases 0

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NCAREA

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	12.5	12.5	12.5
	2	12	16.7	16.7	29.2
	3	6	8.3	8.3	37.5
	4	12	16.7	16.7	54.2
	5	2	2.8	2.8	56.9
	6	5	6.9	6.9	63.9
	7	1	1.4	1.4	65.3
	8	5	6.9	6.9	72.2
	9	7	9.7	9.7	81.9
	10	2	2.8	2.8	84.7
	11	11	15.3	15.3	100.0
	TOTAL	72	100.0	100.0	

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NCAREA

Mean	5.417	Std Err	.417	Median	4.000
Mode	2.000	Std Dev	3.536	Variance	12.500
Kurtosis	-1.339	S E Kurt	.559	Skewness	.376
Skewness	.283	Range	10.000	Minimum	1.000
Maximum	11.000	Sum	390.000		
Valid Cases	72	Missing Cases	0		

ORGLLEVEL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	26	36.1	38.9	38.9
	2	18	25.0	25.0	63.9
	3	13	18.1	18.1	81.9
	4	3	4.2	4.2	86.1
	5	10	13.9	13.9	100.0
	TOTAL	72	100.0	100.0	

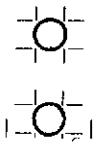
Mean	2.292	Std Err	.164	Median	2.000
Mode	1.000	Std Dev	1.388	Variance	1.928
Kurtosis	-1.471	S E Kurt	.559	Skewness	.852
Skewness	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	165.000		

RGBUS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	5.6	5.6	5.6
	2	5	6.9	6.9	12.5
	3	11	15.3	15.3	27.8
	4	3	4.2	4.2	31.9
	5	3	4.2	4.2	36.1
	6	2	2.8	2.8	38.9
	7	7	9.7	9.7	48.6
	8	7	9.7	9.7	58.3
	9	4	5.6	5.6	63.9
	TOTAL	72	100.0	100.0	

Mean	6.000	Std Dev	3.721	Median	6.000
Mode	6.000	S E Kurt	.559	Variance	13.844
Kurtosis	-1.197	Skewness	.376	Minimum	1.000
Skewness	.283	Range	8.000	Maximum	9.000
Maximum	9.000	Sum	448.000		

BUSINESS DIVISION  
COMPUTER CENTER



LEORG

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	6	8.3	8.3	8.3
	1	18	25.0	25.0	33.3
	2	19	26.4	26.4	59.7
	3	11	15.3	15.3	75.0
	4	4	5.6	5.6	80.6
	5	4	5.6	5.6	86.1
	6	2	2.8	2.8	88.9
	8	2	2.8	2.8	91.7
	10	2	2.8	2.8	94.4
	12	1	1.4	1.4	95.8
	17	1	1.4	1.4	97.2
	35	1	1.4	1.4	98.6
	36	1	1.4	1.4	100.0
TOTAL		72	100.0	100.0	

ARORG

Mean	3.792	Std Err	.723	Median	2.000
Mode	2.000	Std Dev	6.139	Variance	37.688
Skewness	19.161	S.E. Kurt	.559	Skewness	4.163
SE Skew	.283	Range	36.000	Minimum	.000
Maximum	36.000	Sum	273.000		

Valid Cases 72 Missing Cases 0

LEVEL

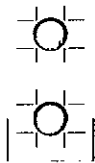
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.4	1.4	1.4
	3	1	1.4	1.4	2.8
	4	49	68.1	68.1	70.9
	5	19	26.4	26.4	97.2
	7	2	2.8	2.8	100.0
TOTAL		72	100.0	100.0	

Mean	4.292	Std Err	.089	Median	4.000
Mode	4.000	Std Dev	.759	Variance	.576
Skewness	7.640	S.E. Kurt	.559	Skewness	.247
SE Skew	.283	Range	6.000	Minimum	1.000
Maximum	7.000	Sum	309.000		

Valid Cases 72 Missing Cases 0

AREP BUSINESS DIVISION  
COMPUTER CENTER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
-------------	-------	-----------	---------	---------------	-------------



Chi-Square      D.F.      Significance      Min E.F.      Cells with E.F. < 5

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87.78890      440      .0572      .018      483 OF 483 (100.0%)

Number of Missing Observations = 0

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The procedure has completed its utilization.

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at primary...

at secondary...

state that... (unreadable text)

frequencies varpage yearorg/statistic=...

the raw data or transformation pass is proceeding

72 cases are written to the uncompressed active file.

\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
There also may be up to 1528 Value Labels for each Variable.

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HE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	22	5	6.9	6.9	6.9
	23	7	9.7	9.7	16.7
	24	11	15.3	15.3	31.9
	25	9	12.5	12.5	44.4
	26	7	9.7	9.7	54.2
	27	4	5.6	5.6	59.7
	28	2	2.8	2.8	62.5
	29	3	4.2	4.2	66.7
	30	5	6.9	6.9	73.6
	32	1	1.4	1.4	75.0
	33	2	2.8	2.8	77.8
	34	3	4.2	4.2	81.9
	35	3	4.2	4.2	86.1
	36	1	1.4	1.4	87.5
	37	1	1.4	1.4	88.9
	38	1	1.4	1.4	90.3
	40	1	1.4	1.4	91.7
	45	1	1.4	1.4	93.1

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HE

	47	1	1.4	1.4	94.4
	50	1	1.4	1.4	95.8
	54	2	2.8	2.8	98.6
	55	1	1.4	1.4	100.0
TOTAL		72	100.0	100.0	

BUSINESS DIVISION  
COMPUTER CENTER

Mean	29.222	Std Err	.937	Median	26.000
Mode	24.000	Std Dev	7.947	Variance	63.161
Skewness	3.055	S.E. Kurt	.559	Skewness	1.839
SE Skew	.283	Range	133.000	Minimum	22.000
Maximum	55.000	Sum	2104.000		

Valid Cases 72 Missing Cases 0

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ARORG

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	24	33.3	33.3	33.3
	2	19	26.4	26.4	59.7
	3	11	15.3	15.3	75.0
	4	4	5.6	5.6	80.6
	5	4	5.6	5.6	86.1
	6	2	2.8	2.8	88.9
	8	2	2.8	2.8	91.7
	10	2	2.8	2.8	94.4
	12	1	1.4	1.4	95.8
	17	1	1.4	1.4	97.2
	35	1	1.4	1.4	98.6
	36	1	1.4	1.4	100.0
TOTAL		72	100.0	100.0	

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ARORG

Mean	3.875	Std Err	.718	Median	2.000
Mode	1.000	Std Dev	6.093	Variance	37.125
Skewness	19.587	S.E. Kurt	.559	Skewness	4.229
SE Skew	.283	Range	35.000	Minimum	1.000
Maximum	36.000	Sum	279.000		

Valid Cases 72 Missing Cases 0

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This procedure was completed at 22:15:21

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fish

BUSINESS DIVISION  
COMPUTER CENTER

TOTAL 72 100.0 100.0

Mean	28.611	Std Err	1.089	Median	26.000
Mode	24.000	Std Dev	9.239	Variance	85.368
Skurtosis	3.415	S E Kurt	.559	Skewness	.472
E Skew	.283	Range	55.000	Minimum	.000
Maximum	55.000	Sum	2060.000		

Valid Cases 72 Missing Cases 0

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ENDER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	47	65.3	65.3	65.3
	2	25	34.7	34.7	100.0
	TOTAL	72	100.0	100.0	

Mean	1.347	Std Err	.057	Median	1.000
Mode	1.000	Std Dev	.479	Variance	.230
Skurtosis	-1.616	S E Kurt	.559	Skewness	.656
E Skew	.283	Range	1.000	Minimum	1.000
Maximum	2.000	Sum	97.000		

Valid Cases 72 Missing Cases 0

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TRP1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	8.3	8.3	8.3
	2	20	27.8	27.8	36.1
	3	9	12.5	12.5	48.6
	4	29	40.3	40.3	88.9
	5	8	11.1	11.1	100.0
	TOTAL	72	100.0	100.0	

Mean	3.181	Std Err	.142	Median	4.000
Mode	4.000	Std Dev	1.202	Variance	1.446
Skurtosis	-1.113	S E Kurt	.559	Skewness	-.259
E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	229.000		

Valid Cases 72 Missing Cases 0

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TRP2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	2.8	2.8	2.8
	2	14	19.4	19.4	22.2

BUSINESS DIVISION  
COMPUTER CENTER



NICOL HALL

```

finish
set more=on.
data list file='a:\khald.txt'/classwrk 1 funcarea 2-3 orglevel 4
orgbus 5 yearorg 6-7 edlevel 8 yeared 9-10 age 11-12 gender 13
edtrp1 to edtrp14 14-27 tnepl 28-32 marketsh 33-35 nbranch 36-38
nplines 39-41 percwc 42-44 percced 45-47 culinf1 to culinf10 48-57
wrrinf1 to wrrinf15 58-72.
process if (tnepl ne 0).
frequencies var=tnepl/statistics=all.
The raw data or transformation pass is proceeding
72 cases are written to the uncompressed active file.

```

\*\*\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
 There also may be up to 1528 Value Labels for each Variable.

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TNEPL

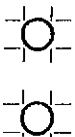
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	6	1	1.5	1.5	1.5
	10	1	1.5	1.5	3.0
	12	1	1.5	1.5	4.5
	13	1	1.5	1.5	6.1
	15	1	1.5	1.5	7.6
	23	1	1.5	1.5	9.1
	25	1	1.5	1.5	10.6
	30	3	4.5	4.5	15.2
	40	1	1.5	1.5	16.7
	42	1	1.5	1.5	18.2
	45	1	1.5	1.5	19.7
	50	1	1.5	1.5	21.2
	52	1	1.5	1.5	22.7
	56	1	1.5	1.5	24.2
	66	1	1.5	1.5	25.8
	80	3	4.5	4.5	27.3
	106	1	1.5	1.5	28.8

-----  
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TNEPL

120	1	1.5	1.5	36.4
135	1	1.5	1.5	37.9
150	2	3.0	3.0	40.9
160	1	1.5	1.5	42.4
200	5	7.6	7.6	50.0
250	2	3.0	3.0	53.0
300	1	1.5	1.5	54.5
400	2	3.0	3.0	57.6
450	1	1.5	1.5	59.1
500	1	1.5	1.5	60.6
530	1	1.5	1.5	62.1
600	1	1.5	1.5	63.6
605	1	1.5	1.5	65.1
650	3	4.5	4.5	69.7
675	1	1.5	1.5	71.2

BUSINESS DIVISION  
 COMPUTER CENTER





750	1	1.3	1.3	71.2
800	6	3.1	9.1	75.8
850	1	1.3	1.3	84.9
900	1	1.3	1.3	87.9
950	1	1.3	1.3	90.5
1000	1	1.3	1.3	93.0
1050	1	1.3	1.3	96.5

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TOTAL		66	100.0	100.0
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Mean	526.375	Std Err	99.962	Median	225.000
Mode	800.000	Std Dev	812.093	Variance	659495.747
Kurtosis	13.698	S.E. Kurt	.582	Skewness	3.478
E Skew	.295	Range	4494.000	Minimum	6.000
Maximum	4500.000	Sum	34741.000		

Valid Cases 66 Missing Cases 0

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This procedure was completed at 18:43:54  
 Process if (marketsh ne 0).  
 Frequencies var=marketsh/statistics=all.

\*\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
 There also may be up to 1528 Value Labels for each Variable.

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MARKETSH

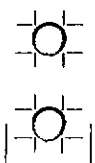
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	3	1	3.1	3.1	3.1
	5	6	18.8	18.8	21.9
	6	1	3.1	3.1	25.0
	7	1	3.1	3.1	28.1
	9	1	3.1	3.1	31.3
	10	2	6.3	6.3	37.5
	13	1	3.1	3.1	40.6
	18	1	3.1	3.1	43.8
	20	1	3.1	3.1	46.9
	25	1	3.1	3.1	50.0
	30	2	6.3	6.3	56.3
	40	2	6.3	6.3	62.5
	45	1	3.1	3.1	65.6
	50	7	21.9	21.9	87.5
	55	1	3.1	3.1	90.6
	60	1	3.1	3.1	93.8
	65	1	3.1	3.1	96.9
	80	1	3.1	3.1	100.0

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MARKETSH

TOTAL	32	100.0	100.0
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BUSINESS DIVISION  
COMPUTER CENTER



Mean	27.000	Std Err	3.227	Median	27.000
Mode	50.000	Std Dev	22.613	Variance	511.351
Skurtosis	-1.150	S.E. Kurt	.809	Skewness	.358
S.E. Skew	.414	Range	77.000	Minimum	3.000
Maximum	80.000	Sum	946.000		

OL HALL

Valid Cases 32 Missing Cases 0

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This procedure was completed at 18:44:25  
 process if (nbranch ne 0).  
 frequencies var=nbranch/statistics=all.

\*\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
 There also may be up to 1528 Value Labels for each Variable.

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BRANCH

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	12	20.3	20.3	20.3
	2	7	11.9	11.9	32.2
	3	3	5.1	5.1	37.3
	4	2	3.4	3.4	40.7
	5	4	6.8	6.8	47.5
	6	1	1.7	1.7	49.2
	7	1	1.7	1.7	50.8
	8	2	3.4	3.4	54.2
	9	2	3.4	3.4	57.6
	10	1	1.7	1.7	59.3
	14	3	5.1	5.1	64.4
	15	1	1.7	1.7	66.1
	16	1	1.7	1.7	67.8
	20	1	1.7	1.7	69.5
	22	2	3.4	3.4	72.9
	23	1	1.7	1.7	74.6
	26	1	1.7	1.7	76.3
	27	1	1.7	1.7	78.0

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BRANCH

	30	2	3.4	3.4	81.4
	31	3	5.1	5.1	86.4
	32	2	3.4	3.4	89.8
	33	1	1.7	1.7	91.5
	35	2	3.4	3.4	94.9
	36	3	5.1	5.1	100.0
TOTAL		59	100.0	100.0	

Mean	12.898	Std Err	1.656	Median	7.000
Mode	1.000	Std Dev	12.722	Variance	161.852
Skurtosis	-1.153	S.E. Kurt	.613	Skewness	.693
S.E. Skew	.311	Range	35.000	Minimum	1.000
Maximum	36.000	Sum	761.000		

Valid Cases 59 Missing Cases 0

BUSINESS DIVISION  
COMPUTER CENTER

This procedure was completed at 18:44:44

process if (nplines ne 0).

frequencies var=nplines/statistics=all.

COL HALL

\*\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
There also may be up to 1528 Value Labels for each Variable.

NPLINES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	15	42.9	42.9	42.9
	2	3	8.6	8.6	51.4
	3	1	2.9	2.9	54.3
	4	1	2.9	2.9	57.1
	5	1	2.9	2.9	60.0
	6	1	2.9	2.9	62.9
	7	3	8.6	8.6	71.4
	9	1	2.9	2.9	74.3
	10	1	2.9	2.9	77.1
	13	1	2.9	2.9	80.0
	15	1	2.9	2.9	82.9
	16	1	2.9	2.9	85.7
	17	1	2.9	2.9	88.6
	20	1	2.9	2.9	91.4
	45	1	2.9	2.9	94.3
	55	1	2.9	2.9	97.1
	200	1	2.9	2.9	100.0
TOTAL		35	100.0	100.0	

NPLINES

Mean	13.143	Std Err.	5.854	Median	2.000
Mode	1.000	Std Dev	34.634	Variance	1199.538
Kurtosis	26.559	S E Kurt	.778	Skewness	4.952
S E Skew	.398	Range	199.000	Minimum	1.000
Maximum	200.000	Sum	460.000		

Valid Cases 35 Missing Cases 0

This procedure was completed at 18:45:09

process if (percwc ne 0).

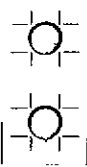
frequencies var=percwc/statistics=all.

\*\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
There also may be up to 1528 Value Labels for each Variable.

PERCWC

BUSINESS DIVISION  
COMPUTER CENTER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
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DL HALL

4	1	2.4	2.4	2.4
5	1	2.4	2.4	4.8
6	1	2.4	2.4	7.1
7	1	2.4	2.4	9.5
9	1	2.4	2.4	11.9
10	8	19.0	19.0	31.0
15	1	2.4	2.4	33.3
20	8	19.0	19.0	52.4
23	1	2.4	2.4	54.8
30	4	9.5	9.5	64.3
40	2	4.8	4.8	69.0
50	3	7.1	7.1	76.2
60	3	7.1	7.1	83.3
80	1	2.4	2.4	85.7
85	1	2.4	2.4	88.1
100	5	11.9	11.9	100.0
TOTAL		42	100.0	100.0

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PERCWC

Mean	35.810	Std Err	4.809	Median	20.000
Mode	10.000	Std Dev	31.168	Variance	971.426
Kurtosis	-.124	S.E. Kurt	.717	Skewness	1.072
Skew	.365	Range	96.000	Minimum	4.000
Maximum	100.000	Sum	1504.000		

Valid Cases 42 Missing Cases 0

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This procedure was completed at 18:45:21  
Process if (percced ne U).  
Frequencies var=percced/statistics=all.

\*\*\*\* Memory allows a total of 12225 Values, accumulated across all Variables.  
There also may be up to 1528 Value Labels for each Variable.

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PERCCED

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	5	1	1.8	1.8	1.8
	10	1	1.8	1.8	3.6
	12	1	1.8	1.8	5.5
	15	2	3.6	3.6	9.1
	20	2	3.6	3.6	12.7
	25	4	7.3	7.3	20.0
	30	2	3.6	3.6	23.6
	35	1	1.8	1.8	25.5
	40	2	3.6	3.6	29.1
	45	1	1.8	1.8	30.9
	50	1	1.8	1.8	32.7
	60	2	3.6	3.6	36.4
	65	3	5.5	5.5	41.8
	70	3	5.5	5.5	47.3
	75	2	3.6	3.6	50.9
	78	1	1.8	1.8	52.7

BUSINESS DIVISION  
COMPUTER CENTER

80 10 18.2 18.2 70.9  
85 4 7.3 7.3 78.2

RECALLED

90	9	16.4	16.4	94.5
95	1	1.8	1.8	96.4
100	2	3.6	3.6	100.0
TOTAL		55	100.0	100.0

Mean	63.000	Std Err	3.814	Median	75.000
Mode	80.000	Std Dev	28.287	Variance	800.148
Kurtosis	-1.012	S E Kurt	.634	Skewness	-.672
S E Skew	.322	Range	95.000	Minimum	5.000
Maximum	100.000	Sum	3465.000		

Valid Cases 55 Missing Cases 0

```
This procedure was completed at 18:46:04
recode culinf5 (1=5) (2=4) (5=1) (4=2) (3=3).
recode culinf6 (1=5) (2=4) (5=1) (4=2) (3=3).
recode culinf7 (1=5) (2=4) (5=1) (4=2) (3=3).
compute edtrp=(edtrp1+edtrp2+edtrp3+edtrp4+edtrp5+edtrp6+edtrp7+edtrp8+
edtrp9+edtrp10+edtrp11+edtrp12+edtrp13+edtrp14)/14.
compute edf=(edtrp3+edtrp4+edtrp11+edtrp12+edtrp13+edtrp14)/6.
compute trp=(edtrp1+edtrp2+edtrp5+edtrp6+edtrp7+edtrp8+edtrp9+edtrp10)/8.
compute culinf=(culinf1+culinf2+culinf3+culinf4+culinf5+culinf6+culinf7+
culinf8+culinf9+culinf10)/10.
compute wrrinf=(wrrinf1+wrrinf2+wrrinf3+wrrinf4+wrrinf5+wrrinf6+wrrinf7
+wrrinf8+wrrinf9+wrrinf10+wrrinf11+wrrinf12+wrrinf13+wrrinf14+
wrrinf15)/15.
process if (tnempl ne 0).
crosstab edtrp by tnempl/options=4/statistics=1.
The raw data or transformation pass is proceeding
72 cases are written to the uncompressed active file.
```

\*\*\*\*\* Given WORKSPACE allows for 8965 Cells with  
2 Dimensions for CROSSTAB problem \*\*\*\*\*

Crosstabulation: EDTRP  
By TNEMPL

Page 1 of 63

EDTRP	Count	Col Pct	6	10	12	13	15	Row Total
1.86								1
								1.5
2.29								1
								1.5
2.36	1	100.0						1
2.71								1

BUSINESS DIVISION  
COMPUTER CENTER

3	10	13.9	13.9	36.1
4	39	54.2	54.2	90.3
5	7	9.7	9.7	100.0

TOTAL 72 100.0 100.0

L HALL

Mean	3.486	Std Err	.119	Median	4.000
Mode	4.000	Std Dev	1.007	Variance	1.014
Kurtosis	-.377	S E Kurt	.559	Skewness	-.685
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	251.000		

Valid Cases 72 Missing Cases 0

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TRP3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	9.7	9.7	9.7
	2	28	38.9	38.9	48.6
	3	14	19.4	19.4	68.1
	4	13	18.1	18.1	86.1
	5	10	13.9	13.9	100.0
	TOTAL	72	100.0	100.0	

Mean	2.875	Std Err	.145	Median	3.000
Mode	2.000	Std Dev	1.233	Variance	1.519
Kurtosis	-.956	S E Kurt	.559	Skewness	.384
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	207.000		

Valid Cases 72 Missing Cases 0

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TRP4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	5.6	5.6	5.6
	2	11	15.3	15.3	20.8
	3	14	19.4	19.4	40.3
	4	33	45.8	45.8	86.1
	5	10	13.9	13.9	100.0
	TOTAL	72	100.0	100.0	

Mean	3.472	Std Err	.128	Median	4.000
Mode	4.000	Std Dev	1.087	Variance	1.182
Kurtosis	-.293	S E Kurt	.559	Skewness	-.637
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	250.000		

Valid Cases 72 Missing Cases 0

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TRP5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
DL HALL	1	1	1.4	1.4	1.4
	2	11	15.3	15.3	16.7
	3	20	27.8	27.8	44.4
	4	31	43.1	43.1	87.5
	5	9	12.5	12.5	100.0
	TOTAL	72	100.0	100.0	

Mean	3.500	Std Err	.112	Median	4.000
Mode	4.000	Std Dev	.949	Variance	.901
Kurtosis	-.424	S E Kurt	.559	Skewness	-.355
SE Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	252.000		

Valid Cases 72 Missing Cases 0

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OTR6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	2.8	2.8	2.8
	2	11	15.3	15.3	18.1
	3	18	25.0	25.0	43.1
	4	35	48.6	48.6	91.7
	5	6	8.3	8.3	100.0
	TOTAL	72	100.0	100.0	

Mean	3.444	Std Err	.112	Median	4.000
Mode	4.000	Std Dev	.948	Variance	.898
Kurtosis	-.121	S E Kurt	.559	Skewness	-.602
SE Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	248.000		

Valid Cases 72 Missing Cases 0

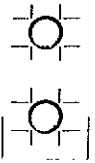
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OTR7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	5.6	5.6	5.6
	2	21	29.2	29.2	34.7
	3	18	25.0	25.0	59.7
	4	24	33.3	33.3	93.1
	5	5	6.9	6.9	100.0
	TOTAL	72	100.0	100.0	

Mean	3.069	Std Err	.126	Median	3.000
Mode	4.000	Std Dev	1.066	Variance	1.136
Kurtosis	-.895	S E Kurt	.559	Skewness	-.355
SE Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	221.000		

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Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	6.9	6.9	6.9
	2	20	27.8	27.8	34.7
	3	22	30.6	30.6	65.3
	4	20	27.8	27.8	93.1
	5	5	6.9	6.9	100.0
TOTAL		72	100.0	100.0	

Mean	3.000	Std Err	.125	Median	3.000
Mode	3.000	Std Dev	1.061	Variance	1.127
Kurtosis	-.717	S E kurt	.559	Skewness	.000
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	216.000		

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	1.4	1.4	1.4
	2	3	4.2	4.2	5.6
	3	2	2.8	2.8	8.3
	4	27	37.5	37.5	45.8
	5	39	54.2	54.2	100.0
TOTAL		72	100.0	100.0	

Mean	4.389	Std Err	.100	Median	5.000
Mode	5.000	Std Dev	.848	Variance	.720
Kurtosis	4.059	S E kurt	.559	Skewness	-1.847
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	316.000		

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	4.2	4.2	4.2
	2	3	4.2	4.2	8.3
	3	4	5.6	5.6	13.9
	4	32	44.4	44.4	58.3
	5	30	41.7	41.7	100.0
TOTAL		72	100.0	100.0	

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Mean	4.153	Std Err	.118	Median	4.000
Mode	4.000	Std Dev	1.002	Variance	1.004
Kurtosis	2.692	S E Kurt	.559	Skewness	-1.611
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	299.000		

Valid Cases 72 Missing Cases 0

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EDTRP11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	6.9	6.9	6.9
	2	15	20.8	20.8	27.8
	3	29	40.3	40.3	68.1
	4	16	22.2	22.2	90.3
	5	7	9.7	9.7	100.0
	TOTAL	72	100.0	100.0	

Mean	3.069	Std Err	.124	Median	3.000
Mode	3.000	Std Dev	1.053	Variance	1.108
Kurtosis	-.376	S E Kurt	.559	Skewness	.007
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	221.000		

Valid Cases 72 Missing Cases 0

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EDTRP12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	4.2	4.2	4.2
	2	17	23.6	23.6	27.8
	3	8	11.1	11.1	38.9
	4	31	43.1	43.1	81.9
	5	13	18.1	18.1	100.0
	TOTAL	72	100.0	100.0	

Mean	3.472	Std Err	.137	Median	4.000
Mode	4.000	Std Dev	1.162	Variance	1.351
Kurtosis	-.902	S E Kurt	.559	Skewness	-.457
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	250.000		

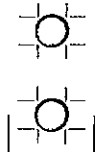
Valid Cases 72 Missing Cases 0

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EDYRP13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	6.9	6.9	6.9
	2	19	26.4	26.4	33.3

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3	16	22.2	22.2	55.6
4	20	27.8	27.8	83.3
5	12	16.7	16.7	100.0

COL HALL

TOTAL	72	100.0	100.0
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Mean	3.208	Std Err	.143	Median	3.000
Mode	4.000	Std Dev	1.210	Variance	1.463
Kurtosis	-1.048	S E Kurt	.559	Skewness	-.070
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	231.000		

Valid Cases 72 Missing Cases 0

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ELTRF14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	4.2	4.2	4.2
	2	9	12.5	12.5	16.7
	3	15	20.8	20.8	37.5
	4	26	36.1	36.1	73.6
	5	19	26.4	26.4	100.0
	TOTAL	72	100.0	100.0	

Mean	3.681	Std Err	.102	Median	4.000
Mode	4.000	Std Dev	1.124	Variance	1.263
Kurtosis	-.365	S E Kurt	.559	Skewness	-.620
S E Skew	.283	Range	4.000	Minimum	1.000
Maximum	5.000	Sum	265.000		

Valid Cases 72 Missing Cases 0

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TNEMFL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	6	1	1.4	1.4	1.4
	10	1	1.4	1.4	2.8
	12	1	1.4	1.4	4.2
	13	1	1.4	1.4	5.6
	15	1	1.4	1.4	6.9
	23	1	1.4	1.4	8.3
	25	1	1.4	1.4	9.7
	30	3	4.2	4.2	13.9
	35	1	1.4	1.4	15.3
	40	2	2.8	2.8	18.1
	42	1	1.4	1.4	19.4
	45	1	1.4	1.4	20.8
	50	1	1.4	1.4	22.2
	52	1	1.4	1.4	23.6
	56	1	1.4	1.4	25.0
	66	1	1.4	1.4	26.4
	80	3	4.2	4.2	30.6
	106	1	1.4	1.4	32.0

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	Col Pct	4300	Total
EDTRP	4.29		1
			1.5
COL HALL	4.43		1
			1.5
	4.64		1
			1.5
Column		1	66
Total		1.5	100.0

Chi-Square	D.F.	Significance	Min E.F.	Cells with E.F. < 5
1120.16664	1040	.0419	.015	1107 OF 1107 (100.0%)

Number of Missing Observations = 0

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This procedure was completed at 19:02:46  
 process if (marketsh ne 0)  
 crosstab edtrp by marketsh / options=4 / statistics=1.

\*\*\*\*\* Given WORKSPACE allows for 8965 Cells with  
 2 Dimensions for CROSSTAB problem \*\*\*\*\*

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Crosstabulation: EDTRP  
 By MARKETSH

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MARKETSH->	Count	1	5	6	7	9	Row Total
	Col Pct	3.1	16.7	3.1	3.1	3.1	18.8
EDTRP	2.79				1		3.1
				100.0			3.1
	2.86		1				4
			16.7				12.5
	2.93						1
							3.1
	3.00		1				3
			16.7				9.4
Column		1	6	1	1	1	32
Continued) Total		3.1	18.8	3.1	3.1	3.1	100.0

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Crosstabulation: EDTRP  
 By MARKETSH

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Crosstabulation: EDTRP  
By YEARORG

COL HALL

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YEARORG->	Count				Row Total
	Col Pct	17	35	36	
EDTRP					
4.29					1
					1.4
4.43	1				1
	100.0				1.4
4.64		1			1
		100.0			1.4
Column Total		1	1	1	72
	Total	1.4	1.4	1.4	100.0

Chi-Square	D.F.	Significance	Min E.F.	Cells with E.F. < 5
386.51467	312	.0026	.014	351 OF 351 (100.0%)

Number of Missing Observations = 0

Crosstabulation: EDTRP  
By EDLEVEL

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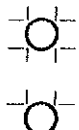
EDLEVEL->	Count						Row Total
	Col Pct	1	3	4	5	7	
EDTRP							
1.86					1		1
					5.3		1.4
2.29				1			1
				2.0			1.4
2.36				1			1
				2.0			1.4
2.71				1			1
				2.0			1.4
Column Total		1	1	49	19	2	72
Continued) Total		1.4	1.4	68.1	26.4	2.8	100.0

Crosstabulation: EDTRP  
By EDLEVEL

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EDLEVEL->	Count						Row Total
	Col Pct	1	3	4	5	7	
EDTRP							
2.79				1			1
				2.0			1.4

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Column	1	10	4	9	1	1.4
(Continued) Total	1.4	13.9	5.6	12.5	1.4	72
						100.0

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Crosstabulation: WRRINF By PERCCED Page 35 of 35

PERCCED->	Count	Row Col Pct	Row Total
WRRINF	3.53		1
			1.4
	3.67		1
			1.4
Column Total	2		72
	2.8		23.6
			100.0

Chi-Square	D.F.	Significance	Min E.F.	Cells with E.F. < 5
572.13422	525	.0758	.014	572 OF 572 (100.0%)

Number of Missing Observations = 0

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This procedure was completed at 1:39:16  
 regression var=edtrp orgbus tnempl marketsh nbranch nplines percwc  
 percced culinf wrrinf/dependent=edtrp/method=stepwise/descriptive=corr.

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\*\*\* MULTIPLE REGRESSION \*\*\*

Listwise Deletion of Missing Data

N of Cases = 72

Correlations:

	EDTRP	ORGBUS	TNEMPL	MARKETSH	NBRANCH	NPLINES	PERCWC
EDTRP	1.000	-.084	-.138	.113	-.077	-.012	-.078
ORGBUS	-.084	1.000	-.056	-.121	-.240	.098	-.144
TNEMPL	-.138	-.056	1.000	.124	.497	.214	.295
MARKETSH	.113	-.121	.124	1.000	.320	.193	.478
NBRANCH	-.077	-.240	.497	.320	1.000	.275	.365
NPLINES	-.012	.098	.214	.193	.275	1.000	.134
PERCWC	-.078	-.144	.295	.478	.365	.134	1.000
PERCCED	.025	.089	.320	.324	.349	.076	.559
CULINF	.571	-.049	-.091	.136	-.112	-.072	-.037
WRRINF	-.005	-.025	-.033	-.034	.142	.186	.016

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\*\*\* MULTIPLE REGRESSION \*\*\*

	PERCCED	CULINF	WRRINF
EDTRF	.025	.571	-.005
ORBUS	.089	-.049	-.025
INEPL	.320	-.091	.053
MARKETSH	.324	.136	-.034
NBRANCH	.349	-.112	.142
PLINES	.076	-.072	.186
PERCWC	.559	-.037	.016
PERCCED	1.000	-.065	-.027
CULINF	-.065	1.000	-.134
WRRINF	-.027	-.134	1.000

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\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Equation Number 1 Dependent Variable.. EDTRF

Beginning Block Number 1. Method: Stepwise

Variable(s) Entered on Step Number  
1.. CULINF

Multiple R .571407  
Square .326507  
Adjusted R Square .316883  
Standard Error .42236

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	6.05362	6.05362
Residual	70	12.48720	.17839

F = 33.93503 Signif F = .0000

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\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Equation Number 1 Dependent Variable.. EDTRF

----- Variables in the Equation -----

Variable	B	SE B	Beta	T	Sig T
CULINF	.51426	.08828	.57140	5.825	.0000
Constant)	1.74364	.29349		5.941	.0000

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\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Equation Number 1 Dependent Variable.. EDTRF

----- Variables not in the Equation -----

Variable	Beta In	Partial	Min Toler	T	Sig T
ORBUS	-.05629	-.06851	.99738	-.570	.5703
INEPL	.03113	-.10561	.99169	-.882	.3807

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MARKETSH 1.0000 1.0000  
 BRANCH .93741 .93741  
 NPLINES .7159 .7159  
 PERCWC .8989 .8989  
 PERCCED  
 CULINF  
 WRRINF

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ms procedure was completed at 1:40:07  
 regression var=edp orgbus tnempl marketsh nbranch nplines percwc  
 percced culinf wrrinf/dependent=edp/method=stepwise/descriptives=corr.

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\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Stepwise Deletion of Missing Data

Number of Cases = 72

Correlations:

	EDP	ORGBUS	TNEMPL	MARKETSH	NBRANCH	NPLINES	PERCWC
EDP	1.000	-.052	-.088	.126	.064	.098	-.042
ORGBUS	-.052	1.000	-.056	-.121	-.240	.098	-.144
TNEMPL	-.088	-.056	1.000	.124	.497	.214	.295
MARKETSH	.126	-.121	.124	1.000	.320	.193	.478
NBRANCH	.064	-.240	.497	.320	1.000	.275	.365
NPLINES	.098	.098	.214	.193	.275	1.000	.134
PERCWC	-.042	-.144	.295	.478	.365	.134	1.000
PERCCED	.044	.089	.320	.324	.349	.076	.559
CULINF	.498	-.049	-.091	.136	-.112	-.072	-.037
WRRINF	.118	-.025	.053	-.034	.142	.186	.016

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\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

	PERCCED	CULINF	WRRINF
EDP	.044	.498	.118
ORGBUS	.089	-.049	-.025
TNEMPL	.320	-.091	.053
MARKETSH	.324	.136	-.034
NBRANCH	.349	-.112	.142
NPLINES	.076	-.072	.186
PERCWC	.559	-.037	.016
PERCCED	1.000	-.065	-.027
CULINF	-.065	1.000	-.134
WRRINF	-.027	-.134	1.000

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\*\*\*\*\* MULTIPLE REGRESSION \*\*\*\*\*

Equation Number 1 Dependent Variable.. EDP

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Beginning Block Number 1. Method: Stepwise