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INTERNET UTILIZATION AS A MEDIUM

FOR TRAINING EMPLOYEES IN

MULTI-UNIT RESTAURANTS

By

DIPENDRA SINGH

Bachelor of Business Administration Annamalai University India 1998

A thesis submitted in partial fulfillment of the requirements for the

Master of Science Degree in Hotel Administration William F. Harrah College of Hotel Administration

> Graduate College University of Nevada, Las Vegas August 2006

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Thesis Approval

The Graduate College University of Nevada, Las Vegas

Summer Term 2006

This Thesis prepared by **Dipendra Singh**

Entitled

INTERNET UTILIZATION AS A MEDIUM FOR TRANING EMPLOYEES IN MULTI-UNIT RESTAURANTS

was approved in partial fulfillment of the requirements for the degree of

Master of Science in Hotel Administration

By the undersigned:

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ABSTRACT

Internet Utilization as a Medium for Training Employees in Multi-Unit Restaurants

By

Dipendra Singh

Dr. Andrew Hale Feinstein, Examination Committee Chair Associate Professor and Chair, Department of Food and Beverage Management University of Nevada Las Vegas

Employee turnovers costs for multi-unit restaurant companies amount to millions of dollars each year. A large amount is spent on training new employees, so that the service and product standards can be maintained throughout the outlets. However, very little attention is being paid to the Internet as an efficient and cost effective medium for training employees.

The purpose of this study is to determine the relationship between multi-unit restaurant companies and their current and perceived future Internet usage for employee training. Multi-unit restaurant companies with different annual revenues were categorized and examined for the extent of Internet usage in training.

Three research questions were formulated to address this issue. The first question asked if the multi-unit restaurant companies are utilizing the Internet for training their employees. The second research question examined whether there exists a significant relationship between companies in a particular annual revenue category and their current Internet usage for training employees. The final research question focused on the

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perceived future Internet usage for training purposes by those multi-unit restaurant companies which are currently not using it.

This research study used secondary data from the Eighth Annual Restaurant Technology Study conducted by UNLV and Hospitality Technology magazine. The survey consists of 35 questions. Relevant response items were extracted from the original database for statistical analysis.

The multi-unit restaurant companies falling under the maximum revenue category showed a significant relationship between their annual revenues and Internet usage for employee training. Also, a statistically significant relationship was found between multiunit companies having annual revenues between \$50 million and \$99 million, and perceived future plan of Internet usage for training employees.

In view of the issues of low cost, easy access, and ease of keeping material up-todate, companies having annual revenues between \$50 million and \$99 million are the most likely candidates for utilizing Internet in the near future - the target market for Internet training providers and developers. This study also indicates that there is an opportunity for Internet training developers to refine current training modules used by firms having high annual revenues.

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CHAPTER I

THE PROBLEM AND ITS PURPOSE

Introduction

Globalization has made the world a small place, and many businesses are trying to increase their market share (Ward, 2005). The multi-unit restaurant industry is no exception. In recent years, an increasing number of people have eaten more meals outside their homes (Kara, Kaynak, & Kucukemiroglu, 1995). The average annual household expenditure for food away from home has grown from \$910 per person in 2002 to \$974 per person in 2004, a nearly 7 percent increase (Restaurant Industry Fact sheet, 2006).

The past five years have brought tremendous change to the business environment. According to Greenstein and Ray (2002) new ways of conducting business are continuously emerging. Political, social, economic, cultural and business environments are changing rapidly, and business challenges arise from these changes (Dedhia, 1995). These global changes and customer pressures are making it difficult for multi-unit restaurant firms to keep up with the pace at which the business environment changes. One strategy for improving performance is on-going training and system changes (Dedhia). Dedhia believes that firms can combat external business pressures through continual employee education.

The essence of business success, as Kanter (1990) states, is competitive advantage. As markets have developed and evolved, achieving competitive advantage has

required an increasingly sophisticated response. Busbin and Johnson (2000) mentioned that decades ago competitive advantage could be achieved through one product or market variable such as price or distribution control. Today, effective competitive advantage has taken on a multidimensional character such that a coordinated combination of product and market variables is required (Busbin & Johnson). Further, potential ingredients in competitive advantage have broadened to include such intangibles as time and information. The Internet and other virtual communication media have emerged rapidly, grown exponentially, and are having a deep impact on competitive strategy. According to Dedhia (1995), web-based technology is one of the common underlying forces driving business change. Businesses are migrating significant portions of their operations to the web (Feinstein, McCool, & Baloglu, 2006).

The Internet is an effective medium of training when there are many barriers in the way of staff training (Hutchcraft, 2001). More often than not, training instructors are based at different locations, and the training materials are approached from various angles, which create big gaps in consistency. These gaps in training, or training inconsistencies can result in high costs, especially when turnover is high.

An emphasis on personal training at Outback Steakhouse reflects the company's perspective that human capital is a major corporate asset (Hallinan, 2005). It is through training that the company builds on its core competencies of personalized service and customized food deliverables. Developing strong customer relationships plays a major role in the company's differentiation strategy because repeat business is significant to survival, given the competition-intense nature of the restaurant industry.

In a survey of 150,000 U.S. companies by *Training magazine* (Galvin, 2003), the majority of subscriber respondents indicated a huge shift in their preferred delivery methods. While instructor-led classrooms accounted for 74 percent of all training in 2002, use of this traditional delivery method dropped to 69 percent of all courses in 2003. The greatest increase from, 12 percent of delivered courses last year to 16 percent this year, came in the form of computer-delivered training with no instructor. This fact indicates the current trend in training, including food and beverage outlets.

Also in 2002, 48 percent of computer-delivered courses were self-paced Web courses, compared to a remarkable 61 percent in 2003 (Galvin, 2003). This increase suggests the majority of industries are embracing e-learning or Internet based learning. Multi-unit restaurant organizations also can not be left behind when it comes to Internet usage in training and educating their employees.

Shepherd (2004) notes the need for constant training and education can be fulfilled efficiently by using the Internet as a medium of instruction. E-learning, training or learning that takes place via the web or Internet, is a highly flexible medium, providing access to learning materials, tutors and other learners wherever and whenever one wishes. The Internet is the largest network of computers in the world. It is made up of more than 100 million computers in more than 100 countries covering commercial, academic and government endeavors (Answers.com, n.d.a). Today, the Net has become commercialized into a worldwide information highway, providing data and commentary on virtually every subject and product on earth.

Training using the Internet is very advantageous as it is available anytime and anywhere the learner desires. It can be accessed at work, at home, on the road, or in a

library. The Internet offers the learner the ability to conveniently fit training into his or her schedule.

This research study will explore the use of the Internet as a medium for training and educating employees in multi-unit restaurants. From an examination of multi-unit restaurant chains, in terms of market capital, a detailed analysis of current Internet use will reveal the prevalent issues involved in the implementation of online training and education in this sector of the food and beverage industry. Further analysis of these factors will be conducted and recommendations will be made regarding the maximizing the full potential of the Internet in the training and development of multi-unit restaurant employees.

This research study uses secondary data from the Eighth Annual Restaurant Technology Study conducted by University of Nevada Las Vegas (UNLV) and *Hospitality Technology* magazine. This annual study placed the focus on listening to restaurant and food service operators and looked at the broad industry trends along with how restaurant companies of different sizes are approaching technology. It is a comprehensive study analyzing the current information technology (IT) utilization by those companies for different purposes ranging from marketing, inventory management, and payment collection to training of employees.

Problem Statement

More awareness by the multi-unit restaurant industry is needed to better utilize the Internet as an effective and efficient medium for training employees. As a response to the limited research in the area of utilization of the Internet for training employees in the

industry, this research will attempt to identify particular types of multi-unit restaurants which are utilizing the Internet, and those which are most likely to use it in future.

Purpose of Study

The purpose of this study is to determine multi-unit chain restaurants current Internet based training trends for employees, including entry-level employees. Findings will also shed light on the relationship between multi-unit restaurant companies and their present Internet usage for training purposes, based on their annual revenues or gross earnings before taxes. Also, responses from members of firms questioned will be analyzed to determine their future Internet usage for training purposes.

Research Questions

Are multi-unit restaurant companies utilizing the Internet for training their employees?

Is there any significant relationship between the annual revenue earned by multi-unit restaurant firms and their Internet usage for training purposes?

Is there any significant relationship between annual revenue earned by multi-unit restaurant firms and their perceived future use of the Internet for training?

5

1.

2.

3.

Significance of Study

Most entry-level employees in multi-unit restaurants are high school students who work part time (Pennar, 1995). Since the younger generation is very much influenced by technology, it is imperative that it should be utilized to teach and train them (Berta, 2001). Business transactions that until very recently have been done without the use of technology are now increasingly being done - online. Within near future it is anticipated that the Internet will be the most likely method for handling majority of business transactions (Feinstein et al., 2006).

The Internet with its strength of real-time communication and omnipresence has actually made the whole world a much smaller place. Multi-unit restaurant companies, which are multinational and have global presence, can utilize the web as an important and cost effective training tool for employees. This enhanced utilization of the Internet may provide an important advantage over the competition. This study seeks to establish whether there is a relationship between multi-unit restaurant companies' annual revenues and their present/ future Internet usage for training purposes.

Definition of terms

Internet. It can be described as an interconnected system of networks that connects computers around the world via the TCP/IP protocol (Answers.com, n.d.a).

<u>Training.</u> The act, process, or art of imparting knowledge and skill required to perform a job (Answers.com, n.d.b).

<u>Multi-unit or chain restaurants</u>. These can be defined as a set of related restaurants, with the same name in many different locations either under shared corporate ownership or franchising agreements (Answers.com, n.d.c).

Information Technology (IT). IT (Information Technology) is a term that encompasses all forms of technology used to create, store, exchange, and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations, and other forms, including those not yet conceived). It is a convenient term for including both telephony and computer technology in the same word (Searchdatacenter.techtarget.com, n.d.a).

<u>Distance learning (DL).</u> Distance learning, sometimes called e-learning, is a formalized teaching and learning system specifically designed to be carried out remotely by using electronic communication. Because distance learning is less expensive to support and is not constrained by geographic considerations, it offers opportunities in situations where traditional education has difficulty operating. Students with scheduling or distance problems can benefit, as can employees, because distance education can be more flexible in terms of time and can be delivered virtually anywhere (Searchsmb.techtarget.com, n.d.b).

Organization of the Thesis

The purpose of this thesis was to study the current and perceived future Internet usage for employee training purposes by multi-unit restaurant companies, based on their total annual revenues. This study aimed to find whether a relationship exists between annual revenues of multi-unit restaurant companies and their present Internet usage for

training purposes. Also, responses from members of firms questioned were analyzed to determine their perceived future Internet usage.

The thesis is organized into five chapters. In Chapter I, a brief discussion on the current opportunities in the field of training employees by the multi-unit restaurant organizations, along with advantages of the Internet, are presented. Further, the study's problem, purpose, and significance are described. Chapter II includes a review of the literature related to the learning process and computer technology in training the multi-unit restaurant employees. An explanation of the hypotheses tested and the statistical analyses used are provided in the Chapter III. Chapter IV displays and interprets the results of the study. Chapter V summarizes the results and provides conclusions, offers implications of the results, and suggests future research.

CHAPTER II

LITERATURE REVIEW

Introduction

The literature review begins with a discussion of learning theories, continues with an overview of the use of computers in distance learning, and explores a host of general and web-related issues involved in the training of multi-unit restaurant employees. The last section concludes with an examination of the relationship between organization size, training budgets, training reach and trends in technology adaptation.

For multi-unit restaurant chains, the implication of training entry-level employees through the Internet is of great importance. All employees entering the organization need training to understand the job and perform it efficiently. Unfortunately, the employee turnover in chain restaurants, almost 200percent, increases the training costs associated with new employees (Matsumoto, 2000). At nearly 300percent, the fast-food restaurant industry turnover is even higher (Jakobson, 2004). To cover such expenses as training, uniforms and lost productivity, operators must spend \$1,000 to replace each entry-level employee and up to \$10,000 for a new unit manager (Dragoon, 2005). Combined expenses are sometimes even higher than the profits of the entire operation.

The multi-unit restaurant industry needs to determine the most cost effective mode of delivering training to their entry-level employees. The industry presents tasks to their front line employees that are basically procedural in nature. They pick up the

ordered beverage and food items, serve them to a customer, and accept payment. Many fast-food workers also cook and package food, make coffee, and fill beverage cups using drink-dispensing machines. These procedural tasks require a certain skill set to perform them efficiently (Ockerman & Pritchett, 2000).

Learning Theories

There is more than one type of learning. A committee of colleges, led by Benjamin Bloom (1956), identified three domains of educational activities:

- a) Cognitive: mental skills (Knowledge)
- b) Affective: growth in feelings or emotional areas (Attitude)
- c) Psychomotor: manual or physical skills (Skills).

This taxonomy of learning can be perceived as the goals of training. For entrylevel employees in chain restaurants, skills can be taught on the job. Computers can be used for imparting training since training procedures involving computer systems can deliver the demonstration phase of training in an efficient and effective manner (Harris, 1994).

The psychomotor sphere includes physical motion, synchronization, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, accuracy, distance, procedures, or techniques in implementation (Simpson, 1972). The new employees need to learn the required skill set to perform duties allocated to them. This learning includes an element of procedural knowledge or knowing how to do something. The "something" might range from completing fairly routine exercises to solving problems (Anderson & Krathwohl, 2001). Procedural

knowledge generally follows a series of sequential steps. In the case of restaurant employees, this area of acquired knowledge allows learners to apply their newly learned skills in performing certain specific tasks, such as serving beverages or food items to the guests.

Hauenstein (1998) postulated that all three domains (i.e., cognitive, affective, and psychomotor) are essential for each level of learning and that behavior results from the combination of learning in all three domains. The force and magnitude of the cognitive and affective domain vectors result in a psychomotor domain vector. In the psychomotor development vector, the scale of skills begins at the lowest level with perception followed by simulation, conformation, production, and, at the highest level, mastery.

People act in accordance with the strength of what they know (cognitive), the strength of how they feel about it (affective) and the strength of what they can do (Hauenstein, 1998). For example, perception requires learning from the cognitive domain that is at the cognition level, and learning from the affective domain, that is at the receiving level. Higher levels of psychomotor skill development require higher levels of cognitive and affective learning.

Eventually, learners who use the Internet as a medium of training will acquire the required cognitive inputs. Learners can use the knowledge acquired on the job to build the affective domain. Technologies such as the Internet may strengthen the psychomotor domain and ultimately improve skills and physical activities (Sharda, Romano Jr., Lucca, Weiser, Scheets, & Jong-moon Chung, (2004).

Davis' (1989) technology acceptance model (TAM) theorizes that two main criteria predict a user's attitudes toward use of an IT (Information Technology) system:

(1) perceived usefulness and (2) perceived ease-of-use. Perceived usefulness is defined as the extent to which individuals believe a technological system that will help them to perform their job better. Perceived ease-of-use, in contrast, is defined as the degree to which a person believes that using a particular system would be free of effort. TAM also proposes that perceived usefulness is affected by perceived ease-of-use because the easier a system is to use, the more helpful it can be at improving job performance. Technology has been moving toward lower cost, personal computers and immersive presence-related technology. Companies should understand the Internet's potential as an effective tool for training employees, and familiarize their employees with the technology aspect of the Internet to make them more comfortable with its use. At the end, better adeptness of employees with technology will result in effective outcomes of Internet training.

Distance Learning and Computer Technology

Engelbart (1963) discusses three types of computer-based systems employed individually and in combination to achieve various distance learning (DL) objectives:

- 1. Computer-supported learning systems,
- 2. Collaborative systems, and
- 3. Immersive presence systems.

Each system has evolved independently with researchers and practitioners from several disciplines making great strides in using computers to augment human intellect (Engelbart, 1963). When two of these systems are integrated, higher-order learning objectives may be achieved.

Computer-supported learning systems have traditionally been labeled CAI (Computer Assisted Instruction) systems (Daniel, 1999). These systems contributed significantly to the use of computers in education. However, they traditionally focused on individual learners working on local computers to accomplish cognitive learning objectives. DL, at its most basic level, is an extension of CAI which enables remote students to access course content (Dede, 1996). Several different technologies and methods, ranging from simple text downloading to sophisticated digital video streaming have been used for DL (Lawless, Allan, & O'Dwyer, 2000). Traditional DL still focuses on content delivery to individual students to accomplish cognitive learning objectives (Sherron & Boettcher, 1997).

Collaborative systems are often referred to by the all-encompassing term GroupWare, or group including. Collaborative systems can range from e-mail and online discussion groups to Internet chat rooms and sophisticated group decision support systems (Johansen, 1988).

Immersive presence systems, commonly referred to as virtual reality (VR) (Fisher, 2000) have emerged as a result of advances in networking technology and processing power coupled with decreasing costs in desktop audio and video equipment. Slater, Sadagic, Usho, and Schroeder (2000) define immersion as an objective description of what any particular system does provide. Presence is a state of consciousness, the (psychological) sense of being in the virtual environment, and corresponding modes of behavior (Slater et. al., 2000, p. 41). Slater argues that immersion can be assessed by the characteristics of technology independently of presence. Immersion can, therefore, lead to presence (i.e., a participant's psychological sense of being there).

Virtual reality is the future of new employee training since it provides a realistic feel of the work place, without being physically there. Employees can become familiar with the actual work place environment with the help of virtual reality. They can work or practice in this virtual environment and thus acquire the knowledge necessary for a successful job. Also they can get a feel of skills applied at the job, which they can practice in this simulated setting.

Training Multi-Unit Restaurant Employees

Employee turnover is a great concern in the multi-unit restaurant world (Romeo, 2000). Employee turnover in chain restaurants is almost 200percent (Matsumoto, 2000), and nearly 300percent in the fast-food restaurant industry (Jakobson, 2004). Besides the high costs, turnover affects a chain's ability to provide consistent levels of customer service and deliver on its mission and brand promise. Training and professional development are looked upon as important mechanisms in creating a culture in which workers feel treasured, respected and career-bound (Dailey, 2003). Such feelings would presumably reduce turnover.

The foodservice industry spends an average of \$79 per employee on training every year, according to the National Restaurant Association's Educational Foundation (NRAEF) stated Romeo (2000). And the industry employs some 11 million people. This translates into the industry shelling out nearly \$1 billion in training annually (Romeo, 2000). Training can be even more costly if not done properly. If trained employees do not stay with the organization, the money spent is lost. A restaurant fills each of its hourly

positions nearly twice a year on average, and it goes through five people to keep every two management posts occupied year-round.

Training is crucial for any business to keep the skills of its employees and management honed. In no other industry is the absence or presence of training as obvious as it is in foodservice (Hutchcraft, 1999). However, one wrong order or mistake by the wait staff or a manager and an operation is history as far as an offended customer is concerned. He or she often spreads the word, too, tarnishing the reputation with as many people as possible (Hutchcraft, 1999).

Some workers do recognize and understand the efforts of their employers to train them. In *Restaurant Business'* Employers of Choice employee-attitude survey, more than 80percent of Applebee's respondents say the company is very committed to good training, and 79percent rate their initial orientation as very effective (Nichols, 1995).

Training not only makes for more educated and skilled employees, but it also helps improve recruitment and retention rates. Employees want to work for companies that invest in building their skills. Employees tend to stay with companies where training is accessible (Moore, 1998). The challenge, however, is how to deliver training in a way that is well received by staff and cost-effective for a company. The solution is technology.

Proper training can help turn a fast-food restaurant into a model store. Personal experiences of customer service at Burger King in Colorado were evaluated in one study, and it was found that well trained employees contributed positively to the overall business of the restaurant (Berta, 2003). Training, employee retention and customer

satisfaction are constant, bottom-line issues that directly affect productivity and profits for foodservice operators (Matsumoto, 2000).

Training is one of the main components of success, laying the foundation for adequate job performance, enabling entry-level workers to carry out the basic tasks required, and building on their competencies. Training builds confidence and allows employees to feel a sense of accomplishment. It helps create a sense that they are productive and integral parts of the work environment (Dailey, 1999).

Currently, 70percent of training is person-to-person. This figure is expected to decline in the future (Matsumoto, 2000). A lack of time and money are the two most common excuses for not training new hires (Durocher, 2001). Firstly, managers are typically too busy to run the training programs themselves, and restaurant chains lack the time to train new hires comprehensively because they need new employees to hit the floor as quickly as possible. Secondly, training can be costly. Revenue-generating employees have to be paid overtime to train or train during their normal shifts. Then there is the cost of the training itself. Training specialists are not cheap. Because employees work varying shifts, it is hard to get them all together at one time for multiple sessions (Durocher, 2001).

Hutchcraft (2001) pointed out that a lot of chain restaurants and independent operators put the onus of training new employees on managers, who are often so busy that they do not have the time to keep track of where people are in their training.

In a recent survey by the Council of Hotel and Restaurant Trainers (CHART), it was found that restaurant and hotel employees realize that good training can increase top

line sales. Training also helps with retention, which impacts the labor costs at the bottom line (Berta, 2004).

Internet in Training

During a recent semiannual conference, CHART members declared that employees are changing; so, the way they are trained in this century must also change (Berta, 2001). A range of practitioner training methods has also emerged of late. These new methods of training are greatly enhanced through developments in the fields of instructional design and in computing and communications technologies. Many organizations have turned to modern methods of delivery which do not rely on conventional face-to-face contact between trainers and trainees. In DL, for example, the learner is much more autonomous and benefits from the services of a training/tutorial organization and utilizes [training] materials in a variety of formats (Stewart & Winter, 1995).

These modern methods have been acclaimed internationally. For example, in the USA, some organizations (including AT&T, Ford Motor Company, Intel Corporation, Atena Life & Casualty and the US Government) have already seized opportunities that have placed them on the leading edge of successfully integrating technology into work-force training programs. These companies also are considered trend-setters when it comes to using high tech training techniques (Leonard, 1996).

On the other hand, restaurant companies are embracing the Internet; they are creating and maintaining own websites. Roughly 10 percent of consumers have already used the Internet to peruse a restaurant's menu, and 44 percent of the cyber-users would

like to do so, according to the National Restaurant Association (NRA) (Romeo, 2000). More than 235,000 foodservice-related web sites have already made their presence felt in cyberspace, and more than a million sites have recipes of one sort or another, according to research from the Foodservice Innovation Network (Romeo, 2000).

Restaurants in the United States employ nearly 11 million people, with nearly 30 percent of these workers below 20 years of age. "The industry has been the proving ground for teen workers ever since the first car pulled into the parking lot at the local burger shop" (Winkler & Caldarola, 2005, p 38).

Because today's young workers have grown up with computers, video games and the Internet, the foodservice industry must incorporate such technologies into training programs to teach this audience more effectively (Berta, 2001). A couple of decades ago, trainers and the employees they trained came from similar backgrounds. The labor pool teemed with potential workers. The manner of training mirrored the way students were taught in school - tell, show, do and review (Berta, 2001). After the baby boomers, came Generation X and Generation Y. The labor pool has nearly evaporated, and technology has changed the way people learn.

Today's young adults are "digital natives," vs. the "digital immigrants" of older generations. Digital natives have grown up with technology, such as video games and the Internet. Digital immigrants must adapt to technology. For them, technology is new; for the digital native, technology is a way of life (Berta, 2001).

Berta (2001) quotes Marc Prensky, founder and chief executive officer of Games2train.com, comments that today's generation has moved from digital speed to twitch speed. Twitch speed is the speed at which thumbs move on a game control. That is

the speed kids are used to. They grew up on videos and MTV. They do their homework while running their MP3 player while watching TV (Berta). Lecturing in a classroom setting is not enough to keep the younger worker engaged. Today's trainers should use technology, the Internet and videos to improve their training programs to reach every generation in the workforce (Berta).

Crecca (2005) reports that younger employees typically leave a job for one of three reasons:

1. They don't feel connected to the company.

2. There is no recognition, and

3. They don't understand the job.

Considering young employees for their ease in using the Internet along with technological familiarity, multi-unit restaurant organizations must embrace and enhance Internet usage for training and education purposes also.

Presently many companies and individuals are offering training online. For example, Ken Owen started a training venture in Ontario, Canada but, because he is active in devising training modules, his work can be easily implemented through the internet (Lynch, 2002). The training modules developed are multimedia based. The basic multimedia course is an interactive online training program in food handling for current or potential entry-level employees in the food-service industry. With improved features for the visually impaired and deaf, the course eventually leads to a basic food handling certification from the Thunder Bay District Health Unit (Lynch).

With the attraction of low-cost Internet-based technologies, companies are exploring the Internet as a means of training front-line crews and even helping boost

employee retention rates. By harnessing the power and ubiquity of the Web, experts contend that operators can not only centrally manage training setups, programming and updates but they can also provide access to multiple locations from various sites through back-office computers (Rubinstein, 1999). Rubenstein also quotes Arlene Spiegel, food and beverage director for the global hospitality practice of PricewaterhouseCoopers in New York, saying that the Internet lets operators offer training programs, recipes, photographs and plate presentations from one central location. Data transfer is much timelier. Also it makes new product rollouts much faster and reduces the need for field support (Rubinstein).

Frequently cited advantages of WBT (Web Based Training) include low cost and easy access, as well as ease of keeping material up-to-date. Training can be delivered to anyone with a PC and Internet connection anywhere in the world, and there is no need to produce and distribute hundreds or thousands of CDs, observed Rubinstein (1999).

Casper (2000) maintains that the biggest advantage of web-based training is the medium's fluidity. In the case of a CD-ROM, which is based on a publishing image, everything related to a topic is put into the package and users are bound by its basic structure. There is a set of menus, or pathways, the student must follow in order to navigate through the material. Casper argues that the nature of the Web, in contrast, allows for the organization of learning objects at a more granular level. The advantage is that even after a new hire is trained using a piece of material, it is stored in a database as a learning object. These learning objects can be accessed through keyword searches, rather than by scanning through the chapter menus of the initial training course. Also Hutchcraft (2001) points out that CD-ROMs, though popular for their at-hand

convenience, do not offer the depth of interactive training provided online, nor the ability to monitor or chart a participant's progress, in the way online training does.

Technology-based training can give new employees a jump-start on becoming productive staffers observed Durocher (2000). Multi-unit restaurant companies can couple their training programs with the high-speed locomotive of computer technology to get employees on the right track. Multimedia training is interactive unlike videotapes which are linear in nature. The advantage of interactive media is that trainees can not continue without understanding because the training includes substance reinforcing exercises throughout in session that must be completed before proceeding further.

Almost a quarter (23 percent) of companies report a skill gap - up 7 percent over the previous year, according to the latest Skills in England report by the Learning and Skills Council ("Skill gaps threaten", 2003).The report shows that skill gaps are occurring because of organizational change, the introduction of new technology, the lack of training and changes in products or services. The authors claim that skill deficiency and limits existing business effectiveness, both threatens long-term competitiveness.

Web-based programs are sometimes limited by Internet bandwidth and access speeds. Today's technology makes it difficult to distribute full-motion video over the Internet (Durocher, 1999). Many businesses are still in the process of evolution as far as accessibility is concerned. Durocher mentions that everybody does not have high speed access to the Internet. The problem is particularly difficult at modem speeds below 56K. However, there are some programs that use still pictures and text for entry-level webbased training.

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The connection speed issues can be resolved if the organizations install a downlink satellite dish. This dish is the same size as those used to catch TV signals and can be installed almost anywhere outside. Durocher confirms that signals travel 50-plus times faster than land-based technologies, and up-front and operating costs are well within the reach of most medium to large size restaurants. Initially, the main use for the dish will be internet access, but as increasing numbers of training providers come online, organizations will benefit from programs that can be delivered right to their training desktops. Satellite-based downlinks are ideal for chains that choose to develop their own web-based training programs (Durocher, 1999).

Business Size, Training Budget, and Technology Adoption

Larger businesses have more resources and an infrastructure in place to facilitate innovation adoption (Dewar & Dutton, 1986), whereas small businesses are generally characterized by severe financial constraints and lack of in-house technology expertise (Welsh & White, 1981). Therefore, small businesses are more likely to have barriers to adoption of information technology than their larger counterparts. Lind, Zmud and Fischer (1989) suggest that larger businesses have more potential to use information technology than smaller businesses because of a large scale of operations.

When considering a solution that could cost between \$500,000 and \$1 million to implement, an organization needs to be sure that it can justify such an expense (Ashenden, 2003). For organizations with hundreds of thousands of employees, this expense may not be so difficult, but for small- to medium-sized organizations, this is a

much tougher business decision. This fact suggests that the big players in the multi-unit restaurant industry are more suitable candidates for the latest technological adoptions.

As learning management evolves, a digital divide is developing. Most of the trendy human capital management possibilities are available only to large organizations with the IT and budget muscle to tackle the necessary integration. Small- to medium-sized businesses are left out in the cold (Merrell, 2003).

Tyler (2001) reports that corporations spent \$500 million on e-learning in 1999, and were expected to spend \$7 billion by 2002. But little of that money is being spent by small companies. Bassett-Jones (1991) surveyed the use of different types of flexible learning media in a midlands' Training and Enterprise Council area. He found that "while large companies have been able to allocate resources to experiment with different modes of delivery, smaller companies find it more difficult and are reluctant to invest in innovation [in training delivery]" (Bassett-Jones, 1991, p. 23). The higher the initial set up costs (for example, for computer-based methods and interactive video) the less likely it is that smaller firms would make this initial investment, irrespective of how appropriate such media are.

The training budgets are continually increasing even after a good profitable year. This fact indicates the growing respect for the impact of training on revenue (Shundich & Kennedy, 1998). It is necessary for any business to keep up with the training and education of its employees if it looks forward to better revenues.

Almost 60 percent of businesses intend to further increase their spending over the coming years. Companies reported major benefits - such as improved effectiveness

within the organization, better staff retention and a higher caliber of job applicant - as a result of their training programs ("End of", 1997).

According to the "Dining Out Review: Casual/Family Restaurants" report (Mintel Reports, 2004) total U.S sales of casual or family chains are predicted to increase 26 percent at current prices and 11 percent at constant prices from 2003 to 2008. By comparison, from 1998 to 2003, sales increased by 38 percent at current prices and 22 percent at constant 2003 prices (Mintel Reports). This statistic clearly indicates that the restaurant industry is expanding. As their business volume increases, their need to train employees with current practices will become important. Multi-unit restaurant companies will look for more efficient ways to communicate with employees and, at the same time, update their skills.

According to the U.S. Department of Labor, the restaurant industry created 214,000 jobs in 2005, gaining an additional 31,000 openings in January 2006 ("Restaurant Industry Leads", 2006). This fact strengthens researcher beliefs that the industry is growing constantly and creating a number of jobs. All the new positions filled required some amount of training to match company standards in terms of service and customer satisfaction ("Restaurant Industry Leads").

Sagon reports that in an interview with the Los Angeles Times, Steven Anderson, president of the National Restaurant Association, mentions that restaurant industry is generating \$376 billion in sales and 200,000 new jobs each year (Sagon, 2000). The restaurant industry employs 11 million people at 925,000 locations, making it the largest private sector employer in the country mentions Sagon. Clearly, it is imperative for the multi-unit restaurant companies to have a system in place for training their increasing

employee pool. This training should be consistent throughout all their units, and the Internet can be an efficient medium in reaching this objective.

A majority of restaurant operators are optimistic about sales growth in the coming months ("Restaurant Performance Index", 2005). Fifty-two percent of restaurant operators expect their sales volume in six months to be higher than it was during the same period in the previous year. In addition to a positive sales outlook, restaurant operators are also more optimistic about the direction of the overall economy. Forty-one percent of operators expect economic conditions to improve in six months. This level of economy is the strongest in nine months. Another positive indicator is the continued strong outlook for capital expenditure activity in the restaurant industry. Sixty- one percent of restaurant operators plan to make a capital expenditure for equipment, expansion or remodeling in the next six months ("Restaurant Performance Index", 2005).

In a survey regarding likely strategies to handle organizational growth, about onethird of respondents (33.6 percent) said they will purchase new HR technology to handle future growth ("How HR managers," 2004, p2). The Internet can be a very useful and practical technological tool in fulfilling the mass training needs of multi-unit restaurant organizations on a broader geographical scale. Nearly half (47.4 percent) of large companies (more than 1,500 employees), will make such purchases, and 51.2 percent of respondents said they would expand training efforts or programs to handle growth in the next 12 months ("How HR managers," 2004, p3).

The 2006 Restaurant Industry Forecast highlighted the major trend of restaurants as homes away from home. With growing demand from plugged-in Americans accustomed to operating in a "24/7 society" for amenities such as televisions and wireless

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Internet access, we may look for restaurants to bring more of these features to the table. Twenty-seven percent of adults surveyed by the National Restaurant Association said they'd likely use wireless Internet access if their favorite table service restaurant offered it (National Restaurant Association, 2005). Companies can utilize this customer demand of Internet for their advantage also in the matters of training and educating their employees. Restaurant employees must be trained continuously to keep them updated with the current trends in their field. Also the organization can update their employees about changes or new business strategies using the Internet.

Adams (2005) reports that hotels catering to group travelers experienced an increase in business and profits for 2005 resulting from increased activity in business travel and corporate meetings worldwide. After experiencing market failures and difficulties, the hospitality industry recovered by 14 percent when comparing January 2005 to the previous January. With this increase in revenues, training budgets also increased to provide better service and enhance guest satisfaction.

Increasing Size of Organizations and Training Reach

A good example of geographical expansion is Una Mas, a Mexican chain of restaurants, which is planning to enter the Indian market. Una Mas would be adopting the quick service restaurant (QSR) model for its chain. Heritage Ventures, a venture capital firm that acquired Una Mas recently, owns 22 outlets in California and is looking to set up five outlets in India. It is surveying cities such as Delhi, Bangalore, and Pune as possibilities ("Mexican food chain", 2005). Even smaller companies are expanding their base or geographical area of business. They are rapidly becoming Multi National
Companies (MNC's) as this news article suggests. This fact is beside the notably large presence of big players such as Mc Donalds, Pizza Hut, etc.

All businesses try to develop the perfect marketing campaign based on research and customer needs. They know it will help increase revenues and grow accounts, and there is high probability they will achieve success. But, if a business organization does not have a targeted employee training initiative to complement the program, all the hard work and research may have little impact on the bottom line. Without staff that can sell new products and identify ways to build customer relationships, chances are that organization will not achieve all it can (Clapp, 2005).

According to Pelham (2002) key competitive factors are shifting into areas such as customized new product development, rapid product introduction, and performance along the entire supply chain. Multi-unit restaurant organizations can utilize the Internet to accomplish these goals because of its speed and global reach.

If businesses, large or small, are to succeed in this increasingly competitive environment, employers need to play a greater role and look to the development of their existing workforce rather than the external labor market. This statement is particularly true for companies faced with the challenges of meeting replacement demand and staff retention ("Skill gaps threaten", 2003).

Workplace training will have to be better to give individuals the personal leadership skills to take on new challenges and to fill the gaps in production and technical management that exist. And better ways of motivating staff will need to be identified to "engage" them more and help their companies to progress ("Skill gaps threaten", 2003).

Matsumoto (2000) reported that Burger King's trainees will make sandwiches through the "Virtual Whopper Board", dragging pickles and dropping ketchup in as many of the 1,024 combinations as they like - and it will not cost the Miami-based chain a dime in added food cost. The "Virtual Whopper Board" is part of a new multimedia based training program which was rolled out to company and franchise stores worldwide in six languages. It is expected to keep Burger King at the leading edge of a growing number of restaurants and foodservice operations that are turning to online and computer-based training.

Global fast-food giant Allied Domecq QSR switched from CBT to e-learning in order to keep up with rapidly increasing demands for staff training (World News, 2003). The firm, which operates 10,000 fast-food franchise restaurants, such as Togo's and Dunkin' Donuts, decided to move its training online after finding that existing CD and instructor-led methods couldn't keep up with the size and speed of its training needs.

Kevin McNamara, Allied Domecq QSR's vice-president of global training, quoted scalability as the major benefit of e-learning; company can reach everyone in the organization quickly. He mentions that using instructor-led training the company trained 2,000 staff a year. But according to projections, it can never catch up with the training needs without a technological solution. The new approach will support the training of more than 100,000 employees, including managers who previously did not train through the firm's CBT; and it will cover topics such as food safety and new products (World News, 2003).

A very good example of the Internet's global reach was mentioned in "Training while all at sea" (2005). Satellite technology will allow employees of the cruise line

company Holland America Line to keep up to date with their training even when they are at sea and out of range of normal channels for gaining access to the Internet.

The company has 14,000 employees across its extended enterprise. This pool includes its Holland America Line, Windstar Cruises, Westmark Hotels and Gray Line divisions. It constantly faces the challenge of training thousands of personnel at any given time, with limited web access, making it more difficult to keep training data current and to satisfy compliance reporting requirements. To help meet this challenge, the technology and training company SumTotal has come forward. Holland America Line will use SumTotal to create its first-ever online learning program for corporate and field employees around the world. This system will link Holland America Line's training facilities in Indonesia, the Philippines and Holland, as well as all of its ships, with its Seattle headquarters, enabling it to centrally manage all global learning activities.

Automating and streamlining the delivery, management and reporting of activities such as mandatory safety, security and environmental compliance training, for example, will help Holland America Line to reduce business expenses and time-to-readiness, while enabling management to identify and resolve gaps in training and certification.

Summary

The trend today is to utilize the Internet for everything ranging from sales of product to customer service. Companies have started to use the Internet for training and educating their employees. Multi-unit restaurants have an opportunity to utilize the Internet for training their entry level employees. The majority of multi-unit entry level

employees are high school students who are very technologically adept. They have grown up in high tech learning environments which give the Internet an edge for training them. This research study will use secondary data from a survey conducted for the Eighth Annual Multi-Unit Restaurant Technology Study. This annual study placed the focus on listening to restaurant and food service operators and looked at the broad industry trends along with how restaurant companies of different sizes are approaching technology. It is a comprehensive study analyzing the current IT utilization by those companies for different purposes ranging from marketing, inventory management, payment collection to training of employees.

CHAPTER III

METHODOLOGY

Introduction

Chapter III discusses the methodology of this study. It begins with a discussion about the study design, and the sample. It continues with a description of the instrumentation and concludes with a discussion of data collection methods, data analysis, and statistical procedures utilized.

Study Design

The research design for this study is a descriptive correlation and logistic regression, using a secondary analysis of data. The purpose of this study is to determine current Internet based training trends of multi-unit chain restaurants for employees, including entry-level employees. Findings highlight the relationship between high revenue earning multi-unit restaurant companies and their present Internet usage for training purposes. Also, responses from members of firms questioned were analyzed to determine their future Internet usage for training purposes.

The variables studied for the purpose of this study will be discussed. This study tried to identify a relationship between multi-unit restaurant companies and Internet usage for the purpose of training their employees based on their annual revenues and future use of Internet. Sample

The sample consists of a total of 155 responses from the Eighth Annual Restaurant Technology Study. These responses consisted multi-unit restaurant managers responsible for IT and technology (48.6 percent), corporate managers (22 percent), owners/ operators (13 percent), and finance/ operations (16.4 percent). All respondents were readers and subscribers of Hospitality Technology magazine. The sample was collected by the Eighth Annual Restaurant Technology Study conducted by University of Nevada Las Vegas (UNLV) and *Hospitality Technology* magazine.

This annual study placed the focus on listening to restaurant and food service operators and looked at the broad industry trends along with how restaurant companies of different sizes are approaching technology. It is a comprehensive study analyzing the current IT utilization by those companies for different purposes ranging from marketing, inventory management, payment collection to training of employees. The annual revenue, total earnings before taxes and deductions, breakdown of the sample consisted of 22 respondents with companies having more than \$1 billion, 13 between \$500 million - \$1 billion, 37 between \$100 and \$499 million, 28 between \$50 and \$99 million, and 34 less than \$50 million.

The Instrument

The Eighth Annual Restaurant Technology Study survey was developed by UNLV. The survey consists of 35 question items. Five of those question items were extracted from the original database. This survey was an electronic survey administered through e-mails. Conducting a survey is a popular quantitative research method. Surveys

allow researchers to gather and document data from a large number of respondents and number-code the answers for further analysis (Singleton, Straits & Straits, 1993). This study used a self-administered electronic survey format via the Internet. Data obtained from the survey included:

- 1. Type of technology-based delivery methods utilized for training of employees.
- 2. Number of years it will take the companies to utilize delivery methods mentioned for training of employees.
- 3. Training and IT budget.
- 4. Present Internet usage for transaction purposes.
- 5. Multi-unit chains approximate annual revenue.

Data Analysis and Statistical Techniques

The data were prepared and analyzed using SPSS 12.0. The research questions for this study are addressed individually. Each question identifies the hypothesis, the independent and dependent variables, and the appropriate statistical test used for analysis. Primarily chi-square and logistic regression statistical procedures were used to evaluate the data. Statistical analysis was performed to determine and identify similarities and differences, as well as the relationships among variables within the population of multiunit restaurant manager's surveyed based on the chains' annual revenue.

Research Question 1:

Are multi-unit restaurant companies utilizing the Internet for training their entry-level employees?

Statistical analysis: Descriptive statistics, frequency distribution.

Research Question 2:

Is there any significant relationship between the total revenue earned by the restaurant companies and Internet usage for training purposes?

- 1. Hypothesis (Ho): There is no relationship between the total annual revenue earned by the restaurant companies and Internet usage for training purposes.
- 2. Hypothesis (H1): There is a significant relationship between the total revenue earned by the restaurant companies and Internet usage for training purposes.
- 3. Independent Variables: Total annual revenue earned by the restaurant companies, IT budget, training budget.
- 4. Dependent Variable: Internet website usage for employee training purposes: measured nominally as "yes" and "no."
- 5. Statistical Test: Logistic regression.

This study combined together the responses of Web site usage, Intranet usage and ASP (Application Service Provider) usage to the survey question regarding type of technology-based delivery methods companies utilize for training employees. Also, the extraneous variables training budget and IT budget were taken into consideration during the analysis.

Research Question 3:

Is there any significant relationship between the size of the business, in terms of total revenue earned, and their future use of the Internet for training?

1. Hypothesis (Ho): There is no relationship between the total annual revenue earned by the restaurant companies and their future use of Internet for training.

- 2. Hypothesis (H1): There is a significant relationship between the total revenue earned by the restaurant companies and their future use of Internet for training.
- 3. Independent Variables: Total annual revenue earned by the restaurant companies, IT budget, training budget.
- 4. Dependent Variable: Restaurant companies planned future use of Internet for employee training purposes.
- 5. Statistical Test: Logistic regression.

Here also, the study combined together the responses of Web site usage, Intranet usage and ASP usage to the survey question regarding the type of technology-based delivery methods companies plan to utilize in future for training employees. Also, the extraneous variables training budget and IT budget were taken into consideration during the analysis.

Justification of Study and Limitations

This research study is based on the primary data of the Eighth Annual Restaurant Technology Study survey which was developed by UNLV in 2006. The Data presented were based on e-mail survey responses and the results were reported statistically. Therefore, this secondary analysis is a quantitative study. The purpose of this study is to describe the interrelationships of the variables discussed previously.

The statistical procedures employed examine causality and demonstrate the relationships found. These statistical analyses examine causality by testing for significant differences among the sample tested. Limitations of this study are because this study is a

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secondary analysis. The researcher has no control over the independent variables; that is, there is no experimental manipulation or random assignment to groups.

Summary

In summary, this chapter discussed the research design, the sample, sampling methods, setting, instrumentation, data collection, and data analysis procedures used in the conduct of this study. The following chapter will present results of the data analysis and a discussion of the findings.

CHAPTER IV

ANALYSIS AND RESULTS

Introduction

Chapter IV begins with a discussion of the description of the sample and then addresses each of the research questions. Following each question is a discussion about the type of statistical analysis used, the findings from that analysis, and a discussion of the analysis of the findings with regard to how they relate to the current literature.

The purposes of this study was to determine: 1) if multi-unit companies are using Internet for training their employees; 2) whether there is any relationship between the annual revenue of multi-unit restaurant companies and their Internet usage for training their employees; and 3) whether there is any relationship between the training budget of multi-unit restaurant companies and their future Internet usage for employee training. Several research questions were addressed:

- 1. Are multi-unit restaurant companies utilizing the Internet for training their entrylevel employees?
- 2. Is there any significant relationship between the total revenue earned by the restaurant companies and their Internet usage for training purposes?
- 3. Is there any significant relationship between the size of the businesses, in terms of total revenue earned, and their future use of the Internet for training?

Description of the Analytic Methods

Annual revenue, training budget as a percentage of sales at present, business transactions conducted over Internet, total number of units in operation, and Internet usage for training employees were examined. Results of the descriptive statistical analysis based on Internet usage for training employees by the multi-unit restaurant companies are presented for research question one.

Logistic regression was used to examine relationships between multiple independent variables (annual revenue, number of units in operation, business transactions over Internet) and the dependent variable (medium of delivery for training) Internet usage. Additionally, logistic regression has the capacity to analyze independent variables of any measurement (Mertler & Vannatta, 2003), such as the dichotomous variables used in this study. The only assumptions needed are that the observations are independent and that the model is correctly specified (Norusis, 2004).

Chi-square (χ^2) is one of the methods utilized in logistic regression. The chisquare model tests if any of the independent variables produce an improvement over the constant only model. Significance of the chi-square model indicates that the logistic regression model being fitted is an improved model over the constant only model, but does not test each independent variable for significance (Mertler & Vannatta, 2003). The Goodness of Fit Hosmer & Lemeshow test, compares the actual value for cases on the dependent variable; A significant p (i.e., $p \le 0.05$) value for the Hosmer-Lemeshow test indicates whether or not there is a significant difference between the two models; if a significant difference is found, than the model under study has a poor fit (Mertler & Vannatta). The Cox & Snell- R² and Nagelkerke- R² are essentially estimates of R²

indicating the proportion of variability in the dependent variable that may be accounted for by all predictor variables included in the equation. The results indicate the relationship of each independent variable to the dependent variable with all other independent variables in the model held constant (Mertler & Vannatta). Logistic regression transforms the probability of an event occurring (that a Internet will be used for training purposes by multi-unit restaurant companies) into its odds. The odds of an event are defined as the ratio of the two probabilities: the probability of an event occurring to the probability that it will not occur (Mertler &Vannatta).

Description of the Sample

The online survey was sent to more than 1806 managers; there was with a return rate of 8.6 percent or 155 responses. Data obtained in this survey were scored and analyzed. The sample consisted of the population of multi-unit restaurant managers (n=134) included in the Eighth Annual Restaurant Technology Study. The Annual revenue breakdown of the multi-unit restaurant companies studied in the sample consisted of 16 percent (n=22) more than \$1 billion, 10 percent (n=13) between \$500 million - \$1 billion, 28 percent (n=37) between \$100 and \$499 million, 21 percent (n=28)between \$50 and \$99 million, and 25 percent (n=34) less than \$50 million. This breakdown is illustrated in figure-1.



Figure 1: Multi-unit restaurant companies and their annual revenues.

Research Questions and Discussion

Research Question 1: Are multi-unit restaurant companies utilizing the Internet for training their entry-level employees?

The sample of n=134 had 40 percent companies which use Internet for training employees, and 60 percent indicated not utilizing it, illustrated in figure-2.



Figure 2: Internet usage for training employees by multi-unit restaurant companies.

This analysis included all 134 responses, giving 79 which do not use Internet for training employees, and 55 which do use it.

From Table 1, it is evident that almost 40 percent (n=55) of the multi-unit restaurant companies are utilizing Internet for training their employees. Also, further analysis reveals, as shown in Figure 3, that of those companies using the Internet, 33 percent (n=18) were having annual revenue between \$100 and \$ 499 million. This was seconded by companies having annual revenue more than \$1 billion, 29 percent (n=16) of the total share in Internet usage. Companies having annual revenue in the range of \$500 to \$1 billion had the minimum share of only 5 percent (n=3).

Table 1

Internet Usage for Training Employees and Annual Revenues

Annual Revenue in \$	No	%	Yes	%	Ν
· · · ·					
More than \$1 billion	6	4.48	16	11.94	22
\$500 million - \$1 billion	10	7.46	3	2.24	13
\$100 - \$499 million	19	14 18	18	13 43	37
		11.10	10	15.15	51
\$50 - \$99 million	20	14.93	8	5.97	28
Less than \$50 million	24	17.91	10	7.46	34
m. (1	70	59.06	<i></i>	41.04	124
1 otal	/9	58.96		41.04	134





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To summarize Question 1, this research study found that multi-unit restaurant companies use the Internet for training their employees.

Research Question 2: Is there any significant relationship between the total revenue earned by the restaurant companies and their Internet usage for training purposes?

Hypothesis (Ho): There is no relationship between the total annual revenue earned by the restaurant companies and their Internet usage for training purposes.

Hypothesis (H1): There is a significant relationship between the total revenue earned by the restaurant companies and their Internet usage for training purposes.

This question seeks to determine whether there is a significant relationship between the Internet usage by multi-unit restaurant companies for training their employees, and the annual revenues earned by these companies. The null hypothesis states that there is no significant relationship between the total annual revenue earned by the restaurant companies and their Internet usage for training purposes. The alternative hypothesis states that there is a significant relationship between these two variables.

The Chi-square statistic and accompanying odds ratio were utilized to examine the data for statistically significant relationships. Internet usage was the dependent variable and annual revenue earned was the independent variable for the initial analysis. This model is statistically significant because $p \le 0.05$, table 2.

Table 2

Chi-square	df	Sig. (p)
14.647	7	0.041

The Result of the Goodness-Of-Fit for Internet Usage and Annual Revenues.

The other independent variables IT budget, training budget and Internet usage for business purposes were also analyzed using the logistic regression; logistic regression was performed as it expands the Chi-square statistic and allows the researcher to investigate the odds of a multi-unit restaurant company using the Internet for training purposes.

The logistic Regression results in table 3 indicated the overall model fit; (i.e., $p \ge 0.05$). When the Goodness of Fit: Hosmer-Lemeshow test is not statistically significant the data is said to fit the model ($\chi^2 = 7.255$, p = 0.509; Nagelkerke R²= .216). The model correctly predicted 66.3 percent of the cases, improving the overall model by 12.1 percent, from 54.2 percent to 66.3 percent.

Table 3

Result of the Hosmer and Lemeshow Test.

Chi-square	df	Sig. (p)
7.255163	8	0.509369

Results in table 4 show that companies having annual revenues more than \$1 billion had a significant relationship with Internet usage for training purposes, (p=.034). The Wald statistic and the corresponding significance level, in the output, test the significance of each of the covariate and dummy independents in the model. If the Wald statistic is significant (i.e., $p \le 0.05$), then the parameter is significant in the model.

Table 4

Results of the Logistic Regression for Annual Revenues on Internet Usage

	· · · · ·			
Annual Revenues	В	Wald	Sig. (p)	Odds Ratio
More than \$1 billion	2.53826	4.480	0.034	12.657
\$500 million - \$1 billion	-1.1146	1.0827	0.298	0.328
\$100 - \$499 million	0.57342	0.847	0.357	1.774
\$50 \$00 million	0.2152	0.0050	0.757	0.906
\$30 - \$\$\$ IIIIII0II	-0.2132	0.0930	0.737	0.800
				· · ·
Less than \$50 million		7.574	0.108	

The "Exp (b)" column is SPSS's label for the odds ratio of the row independent with the dependent. It is the predicted change in odds for a unit increase in the corresponding independent variable. Odds ratios less than 1 correspond to decreases and odds ratios more than 1 correspond to increases in odds. Odds ratios close to 1 indicate that unit changes in that independent variable do not affect the dependent variable. Data in the results provided sufficient evidence to reject the null hypothesis that there is no relationship between the total annual revenue earned by the restaurant companies and

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Internet usage for training purposes. The odds ratio according to Wald statistic was given as:

Multi-unit restaurant companies having annual revenues annual revenues more than \$1 billion are 12.658 times as likely to use the Internet for training employees as multi-unit restaurant companies having annual revenues less than \$50 million.

The above results give significant evidence to reject the null hypothesis that there is no relationship between the total annual revenue earned by the restaurant companies and the Internet usage for training purposes.

Research Question 3: Is there any significant relationship between the size of the business, in terms of total revenue earned, and their future use of the Internet for training?

Hypothesis (Ho): There is no relationship between the total annual revenue earned by the restaurant companies and their future use of the Internet for training. Hypothesis (H1): There is a significant relationship between the total revenue earned by the restaurant companies and their future use of the Internet for training.

The Chi-square statistic and accompanying odds ratio were utilized to examine the data for statistically significant relationships. Future planned Internet usage was the dependent variable and annual revenue earned was the independent variable. This model is statistically significant because $p \le 0.05$, table 5.

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Table 5

The Result of the Goodness-Of-Fit for Internet Usage and Annual Revenues.

 Chi-square	df	Sig. (p)
 17.081	7	0.017

Logistic regression was conducted to determine if the independent variable (annual revenue of multi-unit restaurant companies) was a predictor of the dependent variable (Internet usage for training purposes by those companies). Logistic regression results in table 6 indicate the overall model of the independent variables was statistically reliable in distinguishing between the future plan of Internet usage and annual revenues of those companies which are not using it presently (-2 Log Likelihood =95.255; Hosmer and Lemeshow, Goodness of Fit test: Chi-square 7.610 and p= .472; Nagelkerke R^2 =.251). The model correctly classified 72.3 percent of the cases of the multi-unit restaurant companies in relation to annual revenue. The overall model improved by 13.3 percent, from 59 percent to 72.3 percent.

Table 6

Result of the Hosmer and Lemeshow Test.

Chi-square	df	Sig. (<i>p</i>)
7.610	8	0 472

The Chi-square statistic and accompanying odds ratio were conducted to determine if there is any significant relationship between the size of the business, in terms of total revenue earned, and their future use of Internet for training. A statistically significant relationship was found between multi-unit companies having annual revenues between \$50 million and \$99 million, and their future plan of Internet usage for training employees (p=.024), table 7.

Table 7

Results of the Logistic Regression for Annual Revenues on Future Internet Usage.

Annual Revenues	В	Wald	Sig.	Odds Ratio
More than \$1 billion	0.063	0.004	0.949	1.065
\$500 million - \$1 billion	0.565	0.340	0.559	1.759
\$100 - \$499 million	-0.253	0.139	0.709	0.776
\$50 - \$99 million	1.642	5.096	0.023	5.165
Less than \$50 million		8.215	0.084	

The logistic regression analysis for this research identified the odds of future Internet use for training employees by companies and their annual revenues. The odds ratio under "Exp (b)" column was given as:

Multi-unit restaurant companies having annual revenues between \$50 million and \$99 million are 5.166 times as likely to use the Internet in the future for training

employees as are multi-unit restaurant companies having annual revenues Less than \$50 million.

Summary

This chapter examined and analyzed the data of the study. Each of the research questions was addressed with an explanation of the appropriate statistical test. The findings of the analysis were presented. Chapter V will discuss the results and findings.

CHAPTER V

SUMMARY

Introduction

Chapter V begins with a brief description of the Eighth Annual Restaurant Technology Study, where the data for this study was obtained. The discussion then proceeds through the purpose of the study, research questions, findings from the analyses, and a discussion of the findings. Limitations of the study are examined, and implications for future usage of the Internet for the purpose of training employees by the multi-unit restaurant companies are presented.

This annual study placed the focus on listening to restaurant and food service operators and looked at the broad industry trends along with how restaurant companies of different sizes are approaching technology. It is a comprehensive study analyzing the current IT utilization by those companies for different purposes ranging from marketing, inventory management, and payment collection to the training of employees.

Purpose of the Study

The purpose of this study was to determine whether multi-unit restaurant companies are using the Internet for training their employees. This study also aimed to find whether a relationship exists between the annual revenues of the multi-unit restaurant companies and their present Internet usage for training purposes. Also, responses from members of the firms questioned were analyzed to determine their future Internet usage.

Research Questions

The research questions are presented for the reader to review. Issues will be discussed below in relation to limitations of the study, and future research.

- 1. Are multi-unit restaurant companies utilizing the Internet for training their entry-level employees?
- 2. Is there any significant relationship between the total revenue earned by these restaurant companies and their Internet usage for training purposes?
- 3. Is there any significant relationship between the size of the business, in terms of total revenue earned, and their future use of the Internet for training?

Discussion of Findings

As reported in the analyses, this research found that many multi-unit restaurant companies use the Internet for training their employees. Although 40 percent of the multi-unit restaurant companies are utilizing the Internet for training their employees, is still not a prevalent medium since the majority of the organizations are not using it. The industry may need to realize its importance and effectiveness in the field of employees training. Further analysis reveals that of those companies using the Internet, 33 percent had annual revenue between \$100 and \$ 499 million. This was followed by companies which had annual revenue more than \$1 billion, 29 percent of the total share in Internet

usage. Companies having annual revenue in the range of \$500 to \$1 billion were the minimum users with a share of only 5 percent.

Research question two focused on the multi-unit restaurant companies, categorized on the basis of annual revenues earned by them, and their current Internet usage for training employees. The findings for this question determined that the odds of using the Internet for training employees are higher for multi-unit restaurant companies with annual revenues of more than \$1 billion relative to those with lower annual revenues. This fact is most likely because those large organizations have the financial resources to implement the latest in technology. They are utilizing widespread access to the Internet for competitive advantages. The same is not true for the other groups because they may still not be sure whether to use the Internet for training purposes or not. They are probably reluctant to invest in the required infrastructure, which may require a significant amount of initial investment which will only be recovered over the long-term. Another reason that smaller organizations may not turn towards the Internet for training may be due to less geographically-diverse operations, which require uniformity and real time updates.

Further, low utilization of the Internet for training purposes may be attributed to a reluctance in accepting technology. For instance Gordon (1999) mentions that CBT without any classroom instruction did not improve employee performance back on the job. This thinking could be an important factor in deciding whether to use the Internet or not.

Research question three focused on the annual revenues of the multi-unit restaurant companies related to their future plans of Internet usage for training

employees. The findings here determined that the odds of using the Internet for training employees in the future are higher for multi-unit restaurant companies having annual revenues between \$50 million and \$99 million relative to other annual revenue earning categories of these multi-unit restaurant companies. The possible reason for this particular segment to be interested in the Internet for training might be their planned future strategic advantage over their competitors. Despite being smaller in size, these firms are still looking forward to implementing training through the Internet. They may have plans for future expansion or for becoming multi-national in their scope of business; in which case, the Internet is the most suitable medium for them.

Implications of the Study

This study clearly indicates that the firms having high annual revenues (more than \$1 billion) are currently utilizing the Internet as a medium for training their employees, and are most likely to continue to do so. There is an opportunity for Internet training module developers to refine current training modules used by those companies and enhance them for better results. These companies have the required infrastructure needed for Internet training and should not be targeted as a market for the same, though upgrades might be considered.

Considering the issues of low cost, easy access, and ease of keeping material upto-date, companies having annual revenues between \$50 million and \$99 million are the most likely candidates for utilizing the Internet in the near future. This is the target market for Internet training providers and Internet training module developers. These

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companies are novices in the field of Internet training which will continue to develop in the near future.

Limitations of the Study

The data is based on the Eighth Annual Restaurant Technology Study. Since this is a secondary analysis of an already existing data set, the findings can address only those variables that were included in the original study. The sample used in this study was small. Considering the limited rate of return to this survey, only 8.6 percent, the sample is significantly small as compared to the magnitude of the study. There was no control on the extraneous variables as the data used was secondary. The majority of the respondents were IT managers; this fact might indicate a bias in the responses. Also, the responses for the future utilization of the Internet for training were hypothetical in essence. Furthermore, since the data were self-reported, there is a possibility that under or over reporting could have occurred.

Recommendations for Future Research

This study should be replicated on a larger scale to get a larger sample. The study should be conducted to determine the perception and attitudes of employees toward the Internet based training. Research can also be conducted to measure the effectiveness of training provided through the Internet - for example, cost benefit analysis would yield an actual picture regarding the same. Also, a study focused on the actual decision makers regarding such critical decisions as to whether to implement Internet for training or not, should be conducted to get a realistic estimate for future planning. The technological ease

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and educational level of employees may be addressed by future research when considering the Internet as a medium of imparting training.

Study can also be conducted surveying the actual users of Internet based training in those organizations. Their perceptions and ease of use must be studied along with the time needed to make them familiar with the training module. More focus must be put on studying the reasons for not utilizing this training medium.

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APPENDIX A

8TH ANNUAL MULTI-UNIT RESTAURANT TECHNOLOGY STUDY

Survey Questionnaire

Section 1

Which best describes your job function?

Owner/Operator

Corporate Management

Information systems/Technology Management

Financial Management

Operations/Property Management

Sales/Marketing Management

Purchasing Management

Food/Beverage Management

Other (please specify)

How many units are you responsible for?

Identify the total number of units or properties owned/operated/franchised by your company:

Quick Service Restaurant Casual/Family Restaurant Fine dining Restaurant Other

More than \$1 billion

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\$500 million - \$1 billion

\$100 - \$499 million

\$50 - \$99 million

Less than \$50 million

I prefer not to answer

What has been the direction of change in the following business metrics for your company for this year (forecasted) compared to last year (actual)?

Gross revenue (company-wide)

Average guest check (per customer)

Guest counts (guest volume)

Same store sales growth (per location)

Net profitability (company-wide)

	and the second second	(Click here to choose)	1
		(Click here to choose)	
	347	(Click here to choose)	1
)	8 2010-00	(Click here to choose)	,
		(Click here to choose) -	

(Choices are positive, none, negative)

What are the main drivers for your company's IT efforts?

Productivity or efficiency

Cost-saving measures

^C Revenue-generating opportunities

Enhanced guest service

^C Recognition, and/or loyalty

C Competitive pressure

Preserve existing technology investment(s)

Infrastructure and security

Other

(Choices are: very important, important, moderately important, of little importance, unimportant)

What percentage of your business transactions with distributors/manufacturers do you estimate to be conducted over the Internet?

Now

(Click here to choose) 🛛 🗸 🔫

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Now	(Click here to choose)
In 1 year	(Click here to choose)
In 2 years	(Click here to choose)
(Choices a	re: None <25%, 26-50%, 51-75%, >75%)
My organiz	ation prefers to be:

My organization prefers to be:

From a business perspective:

(Click here to choose)

From a technology perspective:

(Click here to choose)

(Choices are an innovator/leader, a close follower, a distant follower, a reactor to industry conditions and competitors moves)

As a percentage of sales, my organization's IT budget is:

Today	(Click here to choose)
In three years (2008)	(Click here to choose)

(Choices <1%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, >8%, I don't know)

Does the mission statement of your company have any reference to IT strategic planning?

Yes

No

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C

Don't have a mission statement

Not sure

In my company, IT decisions are made predominately at the:

Corporate level

^C Regional level

Unit level

Does your company have an IT steering committee?

Yes

No

Not sure

To what degree is your technology strategy incorporated into your company's general business plan today and to what degree will it be integrated in 2008?

Today	(Click here to choose)	▼
	(Click boro to abaaaa)	
2008	(Click here to choose)	T

(choices, highly integrated, partially integrated, not integrated at all)

SECTION 2: POS SYSTEMS

What Point of Sale system functions are most important for your operations?

(Click here to choose)

Take out/delivery	(Click here to choose) -			
Kitchen display systems	(Click here to choose) 🛛 👻			
Reservations	(Click here to choose) 🛛 🗸			
e-Procurement	(Click here to choose) 🗨			
Enterprise management	(Click here to choose) 👻			
Accounting/financials	(Click here to choose)			
Table management	(Click here to choose)			
Labor management	(Click here to choose)			
Business intelligence	(Click here to choose)			

Customer relationship management/loyalty (Click here to choose)

(Choices are: very important, important, moderately important, of little importance, unimportant)

How soon do you want to replace your company's current POS system?

Within a year

1-2 years

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*

3-4 years

5-6 years

7-8 years

9-10 years

More than 10 years

How important are the following hardware peripherals in your decision to purchase a POS system?

	Very Importa nt	Importa nt	Moderatel y Importan t	Of Little Importanc e	Unimporta nt
Credit-card swipe	Ç	(°	france i	(m	C
Receipt printer	entre a construction of the construction of th	C	inter a second s	C	(in
Kitchen printer	and the second s		Real and a second s		an a
Customer display	(^m	1 ma	(^m	E ^{rri} i.	C
Touch screen	and a second sec	C ^{an} a	and the second s	\$ min	er .
Barcode scanners	in the second se	C	(^m	C	(ⁿ
Wireless handhelds	Level and a second s	in the second		(^m	fi ^{nina}
Biometric fingerprint reader	<u>~</u>	r	¢	ç.	C ^a
Cash drawer	C	C	C	Č.	en e
Kitchen display systems	en e	al and a second s	C	C	in the second

SECTION 3: LOYALTY/CRM

Does your company have a loyalty program?

Yes

Ĉ

1

I do not know

What data does your company track?

Name

Phone number

Address

Email address

Customer preferences

Dining frequency

Customer spending

Other (please specify

How does your company use customer data?

Marketing

To analyze trends

Data mining

Other (please specify

If checked Data Mining then:

What software tools do you use for data mining?

- spreadsheets (such as Excel, etc.)
- statistical packages (such as SPSS, SAS, etc.)
- special data mining software (such as Clementine, Answertree, etc)
- Other _____

Did you adopt a customer relationship management (CRM) program or solution? Yes

No

Do not know

If yes, then:

What was the strategic reason for implementing the CRM solution – check all that apply

-increase customer retention/loyalty

-respond effectively to competitive pressures

-differentiate customer service

-leverage brand across multiple channels

-Other

Which of the following CRM initiatives have your company ever implemented? Check all that apply

-customer service
-sales force automation
-loyalty programs
-e-marketing campaigns (e-mail, web, etc)
-data warehousing
-customer intelligence
-data mining and analytics
-other

SECTION 4: LABOR MANAGEMENT

Does your company have a scheduling system?

Yes

TNO

I do not know

How much time on average do your employees spend on scheduling in a given week? hours per week

What aspects of labor management are outsourced by your company?

Payroll

Professional Employer Organization

Timecards

1

Ç

Other (please specify

SECTION 5: PAYMENT PROCESSING/CREDIT CARDS

Do you accept credit cards in your restaurant?

Yes (if yes, please go to Question xx)

No

I do not know

If not, do you plan to implement credit card processing?

Within 6 months

6-12 months

13-24 months

More than 24 months

How does your restaurant process credit-card transactions?

We do not

\$***

^C Using dial-up phone line

^C Using high speed Internet connection

Using both dial-up and high speed Internet connection

XX. Do you offer electronic gift cards?

Yes No

SECTION 6: NETWORK/INFRASTRUCTURE

What kind of connectivity does your company have to its restaurants? (check all that apply)

DSL

Frame relay

Cable

Dial-up

VSAT

200000

Other (please specify

SECTION 7: Technology-Based Training

Training in your company for entry level employees is done:

- On site (their job location)
- Off site (different from their job location)
- Both

What type of technology-based delivery methods do you utilize for training of entrylevel employees? Check all that apply:

Internet based Web site Intranet ASP Computer Networked system Kiosk based Stand alone computer Videos DVD VHS CCTV AUDIO Tape CD Digital (MP3, WMA) Other:

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Of the ones **NOT** selected, do you plan to utilize XXXXX for training of entry-level employees in?

Internet based
Web site
Intranet
ASP
Computer
Networked system
Kiosk based
Stand alone computer
Videos
DVD
VHS
CCTV
AUDIO
Tape
CD
Digital (MP3, WMA)
Other:

(Choices 1 year, 2 years, 3 years, more than 3 years from now)

As a percentage of sales, my organization's Training budget is:

loday

(Click here to choose)

In three years (2008) 6%

(Choices <1%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, >8%, I don't know)

To what degree is technology incorporated into your company's training programs and to what degree will it be integrated in 2008?

Today (Click here to choose)

2008 (Click here to choose)

(choices, highly integrated, partially integrated, not integrated at all)

VITA

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Thesis Title: Internet Utilization as a Medium for Training Employees in Multi-Unit Restaurants.

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