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JOURNAL OF THE INTERNATIONAL ACADEMY FOR CASE STUDIES

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LETTER FROM THE EDITORS

Welcome to the *Journal of the International Academy for Case Studies*. The editorial content of this journal is under the control of the Allied Academies, Inc., a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The purpose of the *JIACS* is to encourage the development and use of cases and the case method of teaching throughout higher education. Its editorial mission is to publish cases in a wide variety of disciplines which are of educational, pedagogic, and practical value to educators.

The cases contained in this volume have been double blind refereed, and each was required to have a complete teaching note before consideration. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies. The Instructor's Note for each case in this volume will be published in a separate issue of the JIACS.

If any reader is interested in obtaining a case, an instructor's note, permission to publish, or any other information about a case, the reader must correspond directly with the Executive Director of the Allied Academies: info@alliedacademies.org.

We intend to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

The Editorial Policy, background and history of the organization, and calls for conferences are published on our web site. In addition, we keep the web site updated with the latest activities of the organization. Please visit our site and know that we welcome hearing from you at any time.

Inge Nickerson, Barry University

Charles Rarick, Purdue University, Calumet

AUDIT VERSUS REVIEW: A CASE STUDY OF A CHAMBER OF COMMERCE

Dennis Elam, Texas A & M, San Antonio

CASE SYNOPSIS

The passage of Sarbanes Oxley specified greater transparency for public companies. In the process, demands for governance and assurance have spread to other non-public entities. The bar for assurance to stakeholders has been raised for non-profits as well. This case study examines a real world Chamber of Commerce (all names have been changed to a fictional Our City). The External Auditor requests a move to accrual accounting as well as an elevation from a review to an audit. The case challenges students to examine the current environment of assurance expectations, the qualitative difference between an audit and a review, use of statistical data to aid in the determination and finally a writing assignment in defense of a conclusive recommendation.

CASE DESCRIPTION

This case is intended for an undergraduate junior level or first graduate class in auditing. Reviews, compilations, and agreed upon procedures are usually discussed in later chapters in introductory audit texts. Hence this case would logically be presented later in the course.

This case could be an assignment outside class in conjunction with a chapter that discusses reviews and compilations. Appropriate class time for discussion could be fifteen minutes, assuming the students had previously read both the chapter and the case.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

A CASE STUDY OF A CHAMBER OF COMMERCE

Paul Newman, CPA, has been asked by Mr. Ramon Vasquez to evaluate the proper level of assurance that should be provided by Our City Chamber of Commerce. Mr. Newman has been asked to evaluate whether OCCC should provide a more expensive Audit or a less expensive Review. This requires an evaluation of the assurance level suggested by Sarbanes Oxley (SARBOX). Notably SARBOX does not cover non-profits but has raised the awareness level of necessary assurance to stake holders. Mr. Newman has assembled comparative information of what similar sized Chambers of Commerce are doing.

It will be up to the student however, to complete the letter to Mr. Vasquez. The student is required to use the relevant information on Sarbanes Oxley as well s the comparative information. The student will need to make a recommendation supported by critical thinking and reasoning, using the data provided, to Mr. Vasquez. Mr. Vasquez will be using these conclusions as a basis for his recommendation to his Board of Directors.

Audit Firm LLC
100 Main Street
Our City, Texas

March 11 2010

Mr. Ramon Vasquez, Executive Director
Our City Chamber of Commerce
500 Main Street
Our City, TX

RE Accounting and Audit Considerations for Our City Chamber of Commerce

Mr. Vasquez recently asked me to undertake an evaluation of accounting and audit procedures for the Our City Chamber of Commerce. As a matter of objectivity, I am not a Chamber member nor am I being compensated for this brief report. Audit Firm consists of four principal partners licensed to do practice by the Texas State Board of Public Accountancy.

Need for Transparency

The accounting scandals of the last few years resulted in new rules known as the Sarbanes Oxley Act SARBOX for publicly held corporations. Such demand for transparency and accountability has also had effect on other organizations that serve wide stakeholder interest, such as non-profits

My understanding is that the Board of Our City Chamber of Commerce OCCC has also suggested 'ramping up' the reporting of Chamber. Inquiry as to cost resulted in the Chamber selecting a 'Review' rather than a more complex 'Audit' by an outside CPA. One of the recommendations of the external CPA was that OCCC should adopt an accrual basis accounting system rather than the cash system of reporting currently in use.

Mr. Vasquez expressed several valid concerns to me about that suggestion. His concerns included but were not necessarily limited to

Increased complexity of the accrual accounting
Availability of someone to perform the required accounting entries
Increased cost of obtaining internal accounting service to do accruals
Increased cost of an external audit versus a review

Notably he has been informed that a clean audit opinion would require an accrual system of accounting.

An Examination of Accrual versus Cash

OCCC currently operates on a cash basis. Revenue is recorded when collected. The classic rule of accrual versus cash in accounting is that when a business primarily conducts its transactions in cash that has been an acceptable method of accounting. As noted earlier, recent legislation has brought accounting issues more in the public eye resulting in a call for accruals in certified audits. An examination of how this would affect LCC is undertaken.

Three items comprise 87% of OCCC total revenue. (see excel spreadsheet). Membership is 36%, the Action is 28%, and the Golf Tourney is 23% with other comprising the balance, the City agreement being the major part of that component. The Auction and Golf Tourney are one time events so the revenue would not be accrued for them. This leaves membership. Most members pay once a year. There is the benefit of smoothing the revenue stream to be obtained from accrual. While I did not investigate, the more the actual renewals are randomly distributed throughout the year, the closer the existing reality may be to an accrual system. In other words, if through the years renewals fall evenly about 1/12 per month, an accrual system may not show much difference than the existing cash system. In addition, a cash system only reports what is received, which in itself is a brake on spending beyond what is available.

Several of the entries provided by the external auditor involve payroll. While this is a major expense, about 50% of the budget, it consists of three people and virtually never changes during the year. This makes the chance for payroll fraud virtually negligible. Payroll fraud usually involves the creation of fictitious employees or padding for temporary non-existent employees. And the payroll amounts per month are constant. My conclusion is that there is very little information value to be gained in payroll by switching to accrual. Other potential accrual items include the copy machine lease and depreciation of equipment. Since these are minor items, again materiality would seem to argue against the necessity of accruing amounts.

Cost Considerations

The question Mr. Vasquez asked me to address was whether it was cost advantageous for OCCC to adopt accrual accounting. The external auditors have suggested this would be necessary to obtain a ‘clean opinion’ in an audit. Mr. Vasquez informs me that due to cost

considerations, a review was contracted instead of an audit. In addition to the review cost of $1,700, OCCC was charged $1,100 for the work required to generate the adjustments to move OCCC to an accrual basis. It should be noted that exclusive of salaries, this amounts to about 2% of the OCCC budget.

Research Methodology

I suggested that a survey be conducted among area or similar sized Chambers as to

Membership size
Annual Budget
Whether they had a compilation, review, or audit
Whether they had adopted a cash or accrual system

Certainly this is not nor do I claim it to be a rigorous, scientific survey of sufficient sample size to be regarded as a formal study. However, anecdotally it does speak to what other Chambers of similar size are doing about this issue.

The results of the survey are shown in the attached Excel Spreadsheet.

Examining the Research

I have ranked the results by membership from lowest to highest. Five of those surveyed are using cash and they are in the six smaller entities. This would seem to suggest that other Chambers have encountered the issue of cost consideration regarding moving to an accrual method. This also raises the question of who would prepare the entries. As noted, payroll is a fixed monthly expense yet can entail multiple entries reflecting payroll deposits to the government. Whether the information on the actual statement would be worth the difficulty and cost of creating it is up to the Board.

The results of the audit question were particularly interesting. Not surprisingly the two largest. Clarksville and McKinney with over 1,000 members had an audit. Their budgets are 2.5x and 12x times the OCCC budget. Results using the last table which excludes the tow largest Chambers are

No outside examination	3
Compilation	2
Review	2
Audit	3

OCCC was listed as no outside as there is not a history of having something done externally though a review was performed last year. One Chamber indicated it had a bi annual review (every other year) and another indicated that it alternated between an audit and then two annual reviews. The trouble with such a mixture is that the audit year will necessarily include an 'except for' regarding the unaudited numbers in the previous year's review. So one pays for but will never receive a completely 'clean' examination. One of the largest memberships, Twin Falls, indicated it was asking for bids. The reality of the situation is that CPAs, fearful of negative consequences in taking on new non-profit clients, have like other CPAs, increased their fees to allow for such contingency. It might be mentioned that my reading of accounting literature suggests that overall audit fees have doubled since SARBOX, an ironic outcome for a profession under the microscope for past misdeeds. One Chamber received an indication of an $8,000 fee for its audit. This would amount to over 8% of the non payroll budget for OCCC.

Chamber Master

Ramon Vasquez is considering adoption of software specific to Chamber business marketed at the URL www.chambermaster.com.

This would appear to allow for accruing member dues. In addition, like most use specific software, it would allow a greater database and flexibility component for the Chamber operation.

Conclusion

To be completed by the student

Paul Newman CPA
Partner, Audit Firm LLC

Our City Chamber of Commerce Analysis
Similar Chamber Accounting Statistics
Audit Firm LLC

OCCC Included				
Able	240	$391,000	Audit	Cash
Our City	350	$200,000	No	Cash
Baker	360	$225,000	Audit	Cash
Charlie	400	$390,000	No	Accrual

David	435	$280,000	Compilation	Cash
Early	450	$360,000	Bi Annual Review	Cash
Frank	450	$750,000	Audit/Review	Hybrid
George	500	$276,000	Bidding	Hybrid
Hank	765	$500,000	Comp	Hybrid
Iowa	800	$275,000	No Audit	Accrual
Jones	1100	$550,000	Audit	Accrual
King	1100	$2,500,000	Audit	Accrual
Total	6950	$6,950NonPWriting00		
Average	579.1666667	$558,083.33		
Median	450	$375,000.00		
St Deviation	291.3825456	$631,227.01		

Exclude Hank and Iowa, the two largest				
Able	240	$391,000	Audit	Cash
Our City	350	$200,000	No	Cash
Baker	360	$225,000	Audit	Cash
Charlie	400	$390,000	No	Accrual
David	435	$280,000	Compilation	Cash
Early	450	$360,000	Bi Annual Review	Cash
Frank	450	$750,000	Audit/Review	Hybrid
George	500	$276,000	Bidding	Hybrid
Hank	765	$500,000	Comp	Hybrid
Iowa	800	$275,000	No Audit	Accrual
Total	4750	$3,647,000.00		
Average	475	$364,700.00		
Median	442.5	$320,000.00		
St Deviation	177.294482	$162,564.89		

OCCC Chamber Revenue		FYE 2006	% Total	Subtotals
Membership				
Dues	$52,524.00	71%		
Luncheons	$15,343.00	21%		
Services	$5,625.00	8%		
	$73,492.00	100%		
Total Membership		$73,492.00	36%	
Auction		$56,876.00	28%	
Golf Tourney		$45,818.00	23%	87%
Interest Income		$829.00	0%	
City of Lancaster		$20,600.00	10%	
Other revenue		$3,974.00	2%	13%
Total		$201,589.00	100%	100%

THE NOT-SO-SUBTLE ART OF PERSUASION: THE CASE OF ATLANTIS SPA PRODUCTS

Lucia S. Sigmar, Sam Houston State University
Renée Gravois Lee, Sam Houston State University

CASE DESCRIPTION

The primary subject matter for this case involves the sales approach of a kiosk vendor, selling nail and skin care products, in a suburban American mall. The dialogue contains diverse persuasive appeals and customer responses. This case was designed for use in undergraduate business communication, marketing, or personal selling courses, particularly courses that address analysis of persuasive appeals and/or personal selling techniques, and development of persuasive communications.

The dialogue format is central to the case. Through the various ways the sales representative presents the product information and approaches the sales call, and the various ways the buyer responds, the dialogue is ripe with analytical opportunities for the students.

The case could be taught in two 50-minute or one 75-minute session(s) and is expected to require two hours of outside preparation by students. It can be used as a follow-up to class discussion of persuasive appeals or a range of personal selling techniques, or as a preliminary assignment to a written persuasive appeal or persuasive role play.

CASE SYNOPSIS

While shopping at a local mall, Lana Thompson is approached by a young woman dressed in a white dress shirt, black slacks and black apron, who offers Lana a slice of colorful soap wrapped in tissue paper. Lana slows her pace, accepts the gift, smells the soap fragrance, then turns toward the kiosk that features a variety of skin and nail products. The sales associate, Salima, selects another colorful soap sample from her tray and offers it to Lana who stops to accept it. This "hook," effective in its appeal to the senses, entices the customer, and the ensuing sales exchange focuses on the exclusive, mineral-rich beauty products from the Dead Sea. The sales call also demonstrates a number of other classic persuasive appeals, including scientific, emotional, rational, character, comparative, vanity and sensory. The dialogue also stimulates class discussion of selling techniques including the hook, non-verbal and verbal selling techniques, features and benefits, customer care, responding to objections, and closing the deal.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

CASE DIALOGUE

It was a leisurely Sunday afternoon in August, and Lana Thompson decided to go shopping at the Centerville Mall for nothing in particular. Her first stop, upon arrival, was the Java King Coffee Shop for her usual—a medium vanilla latté—and as she strolled slowly down the mall's spacious and carpeted concourse, Lana enjoyed slow and indulgent sips of her favorite beverage. She paid little attention to the various kiosks strategically positioned at intervals along her way, and focused her attention on the extravagant window displays of clothing and jewelry.

As Lana approached the Atlantis Spa Products kiosk, she was met by an attractive sales associate dressed in black slacks, a crisp white shirt and black apron with a tray of colorful soap samples in her left hand. As she closed the gap between herself and her potential customer, Salima gracefully selected a sliver of colorful, translucent soap wrapped in tissue paper, and offered it to Lana with a shy smile.

Part One: The Hook

Salima: Please… (Offers a soap sample to Lana as she passes by the kiosk.)

Lana: (Lana pauses, takes the sample, and smells.) Oh, thank you. Mmmmm…this smells wonderful.

Salima: Would you like another?

Lana: (Lana stops and turns toward the kiosk.) Yes, thank you. This one smells good, too.

Salima: Yes. (Smiles and nods in agreement.) I am Salima. What is your name?

Lana: Lana.

Salima: Lana. Is such a beautiful name. Where are you from, Lana?

Lana: I live here in Centerville.

Salima: I am from Jordan, in a city called Amman.

Lana: You're a long way from home.

Salima: (Smiles.) Yes, I have been here only for six months. How is my English? You can understand me?

Lana: Oh, it's fine. You speak very well for only being here six months.

Salima: Lana, can I ask you something? It's a little personal.

Lana: Well, yes.

Salima: May I see your hands?
(Lana holds out her hands. Salima studies them intently, then nods her head knowingly.)

Salima: Hmmm…You go to the nail salon sometimes?

Lana: Yes.

Salima: Do you mind if I ask…About how much do you spend there?

Lana: Oh, it costs me about $30 for a manicure.

Salima: So, $30 for manicure, then maybe another $30 for a pedicure if you get that, too? Plus, you have other costs, too, like your tip and your gas to get there. So, about $80 twice a month is what most women pay to go to the nail salon.

Lana: (Nods in agreement) Yes, the expenses do add up pretty quickly.

Part Two: The "Magic"

Salima: May I show you something for your nails? May I take your hand?
(Lana extends her hand, and Salima inspects it.) Are you doing your own nails?

Lana: Yes. And sometimes I go to the salon.

Salima: Hmmm. See these ridges? See how dull? Now, I have something amazing here. I will show you on one finger. Don't look until I am finished. (Salima buffs Lana's fingernail using a four-sided buffing block, talking as she buffs). This side of the block is for the ridges and for cleaning the nail, and you see I buff five seconds, one…two…three…four…five. Now, this side is for the circulation. This brings up all the natural oils and stimulates blood circulation and massages the nail so it grows faster, one…two…three…four…five. Now, I buff this time with the magic side, one…two…Now don't look until I am done…three…four…

Lana: What is on the magic side?

Salima: (Lowers her voice to a whisper.) Is pure silk.
(Salima continues buffing) So, three…four…five with the silk side. Now, don't look yet (Salima holds her finger over Lana's fingernail). You see, all you need is to buff with three sides for five seconds each. This cleans your nail, brings all the natural oils up to the surface, and helps it grow faster. Saves you time. Saves you money. Are you ready to see difference in your nails?

Lana: (Now curious.) Yes.
(Salima positions Lana's hand under the kiosk light and ceremoniously removes her finger from Lana's nail.)

Lana: Wow! What a difference.

Salima: (Smiles knowingly). Yes. And it will stay shiny for the next two weeks. Look at what was before (points to Lana's other nails on that hand) and what is after (points to the buffed nail). So you know that this is good? You see all the lines and ridges here in this nail? But in this nail that we just buffed—gone. And you see how easy? Use this side of the buffer for five seconds, this side for five seconds, and the magic side for five seconds. Easy. And so much difference. Just look at the difference.

Lana: You're right. This nail is really shiny.

Part Three: The Healing Minerals of The Dead Sea

Salima: Now, let me show you something else amazing. This…(Salima picks up a bottle filled with clear liquid.)… is a cuticle oil made from minerals from the Dead Sea. You see all the dry, dead skin around your nail? (Salima holds Lana's hand, pointing to her cuticles.) Now, we just massage this oil into your cuticle—it is full of nutrients. Then we are going to really see shine! (Salima massages the cuticle oil into the top of Lana's nail.) And again we count. One…two… three…four… five… and look!

Lana: Wow, what a difference. My skin actually feels better and softer on that finger.

Salima: Yes…and really simple, one…two…three…four…five. And look at the difference from your other cuticles that are dry. It's like your lips. When you have dry lips, what do you do? You moisturize them. Your nails need that moisture, too.

Lana: (Nods.) Mmmm-hmmm.

Salima: And you do your nails by yourself—fast and easy—without having to go to the salon. How much is it at nail salon did we say, about $80 for twice a month? That's almost $160 a month, or over $1,000 a year for your hands and feet, right? This is so much cheaper. And you know the best thing? (Long pause.)

Lana: (Curiously.) What?

Salima: (Salima lowers her voice.) The lifetime warranty.

Lana: What do you mean?

Salima: (Peels off sides of the nail buffer.) These sides of the buffer, you get them anytime from us, free. You use them, you need more, you come see me in the mall and I replace them. I give you my phone number and my e-mail. How much for nail salon each month? $160 or more! How much is that a year? (Lana rolls her eyes.) Ooooooo – more than $1,000 in a year. For you, this package, with all the Dead Sea minerals for your nails, only $79! For whole year's supply. That's a lot cheaper than one visit to nail salon! And inside you get four things…(Salima carefully opens the package of nail products and shows Lana the four products inside.) You get the buffer with lifetime warranty, which you can bring to any of the malls and you get replacement free. No charge. Or you call me anytime, and you say you want replacement, I mail it to your home. Free. Also you get the cuticle oil. And this nail file. And a lotion with minerals from the Dead Sea.

Lana: I think $79 is pretty expensive for a manicure set.

Salima: Well, remember that these products will last the whole year for you. So easy to use and saves you so much money. And look at this. (Gently, almost reverently, Salima picks up Lana's hand again and points to her buffed fingernail.) How shiny is this? And you know how proud I am of these products? Because five days from now, your nail will still be shiny. Ten days from now your nail will be shiny. And so easy. Buff with this side first, then this, then this, and look. Or, if you need to go even faster, just use the white side—the silk side—and buff one…two…three…four…five, and look, everything is so simple, you cannot imagine. You go to the nail salon and everything is so expensive and the products are made from chemicals, not natural. Don't go to the nail salon. Our products are safe and natural. With our products, you get a professional manicure. And you don't have to go to the nail salon, the nail salon comes to you. And look — (Again, Salima points to Lana's nail) — this is the natural shine of your nail –

no chemicals. What do you think? You like the way your nail is so smooth and shiny and natural?

Lana: Yes.

Salima: The set comes with lotion from the Dead Sea, too. Which of these lotions do you like best? (Lana points to four lotion bottles, each labeled with the name of the fragrance.)

Lana: Let me smell the Sea Breeze one and the Blue Sky one.

Salima: (Salima open the two bottles and gives them to Lana.) Which fragrance do you like best?

Lana: I think Sea Breeze. It smells so fresh.

Salima. Here, I put on your hand. (Salima puts a drop of lotion on Lana's hand and rubs it in slowly.) It leaves your skin relaxed and hydrated. You like the smell and feel of the lotion?

Lana: This lotion *is* nice. It makes my skin feel so silky.

Salima: That's because of the minerals in the sea, it's all very fresh all of the time. All natural. Not made in China, not made in Japan. It's made in Jordan from the waters of the Dead Sea. Not with chemicals.
(Salima hands Lana a bottle of the Sea Breeze lotion.) Have you heard of the Dead Sea? Do you know where it is?

Lana: (Hesitates.) I think it's in the Mediterranean?

Salima: The Dead Sea is a salt lake in the Jordan Valley, between Jordan, where I am from, and Israel. It's very tranquil in the Dead Sea, and very rich in minerals. Since early times, women have known about the medicinal properties of the Dead Sea. Have you ever heard of Cleopatra?

(Lana nods).

She was Queen of Egypt. Very beautiful. Very smart woman. She used the water and mud to keep herself youthful. She knew of the miraculous and healing effects of these minerals on skin. Today, I will show you these secrets.

Salima: Millions of people use the mud and water of the Dead Sea. Why? For good health. Medical research shows us that the Dead Sea salts and minerals have healing properties. These products are very exclusive. And millions of people spend a lot of money every year to travel to the Dead Sea. Now we bring the Dead Sea to you. No jet lag. No dehydration or circulation problems while in the airplane! (Pauses.)
So Lana, do you know what are the benefits of the Dead Sea?

Lana: Not really.

Salima: Some say the Dead Sea minerals are magical. Not magical, but very healthy to us. Science proves this.
(Salima holds up her hand, looks directly at Lana, and begins to count off each finger.) Many scientific studies show the number one benefit: Dead Sea minerals are great for your body and skin. They help to balance the water and moisture level in your skin. Number two: They heal your skin tissue which is damaged by sun and chemicals. Number three: They make the skin anti-allergic. Number four: You know environmental factors like pollution that affect our skin? These products protect our skin against these pollutants in the air. Number four: You know the toxins our bodies produce? These products neutralize these toxins. And number five is best of all: These products help you relax. They relieve stress. (To emphasize the point, Salima points to a photograph of a beautiful, bikini-clad woman floating serenely on the surface of the Dead Sea.)

Lana, do you have stress in your life?

Lana: (Nods emphatically.) Yes I do.

Salima: The salts and minerals from the Dead Sea truly do have healing properties and can help you with stress, or fatigue, and even sleeplessness**.** Or maybe you have arthritis or aches or poor blood circulation? Our products are good for these problems as well. Mud from the Dead Sea contains minerals that heal wounds, wake up hair roots and eliminate dermatitis and dandruff. Some people say it can even stop headaches and migraines. Maybe you have skin allergies, Lana, yes? Dead Sea minerals can even stop eczema and skin rashes—even dandruff**.** And just look at your hands. These minerals make your skin more beautiful and elastic. Our products are all made with the healing waters and minerals of the Dead Sea. People from all over the world come to Jordan for these products and now we bring them to you. The nail products contain these natural minerals. The cuticle oil and the lotion we put on your hands — they are made from the Dead Sea

and they will help to heal and strengthen your hands and nails. You like how your nails look after using these products?

Lana: Yes, but $79 is still too expensive.

Salima: Even though the products contain natural and healing minerals, and will last for an entire year?

Lana: Yes, I'm afraid so.

Salima: (Salima pauses for a long time, and squints her face in intense concentration.) I tell you what I'm gonna do for you. If you take two manicure packages, I sell you the first one for $59, the second one you pay only $29. You like these products?

Lana: Yes, but I'm still not sure about the price.

Part Four: This Product Will Change Your Life Seriously

Salima: It's gonna be o.k. Here, you take this bag. (Salima hands Lana a bag with the two manicure packages.) These are for you. I'm gonna change your life today.

Lana, this (Salima holds up small bottle) is gonna make you look "Wow"! This is an eye serum. This is gonna change your life seriously. Most women worry about the circles under their eyes. Is that something that bothers you?

Lana: Yes, of course.

Salima: This eye serum will totally fix that. I can help you remove those circles. Come, please, sit here (Salima gestures towards a chair) and I will show you.

(Lana sits).

Salima: Why is it that this eye serum can remove the circles? Because of the minerals from the Dead Sea. Minerals are something your body needs and recognizes in one second.

Lana: Hmmm.

Salima: I tell you the truth. Seriously. Don't look at my shoes. What color shoes do I have?

Lana: Black?

Salima: Do you know or is it a guess?

Lana: It's a guess.

Salima: Yes. Because it's not important the color of my pants or my shoes, or your pants or your shoes.

(Salima covers her eyes.) Lana, what color are my eyes?

Lana: Blue.

Salima: Yes. Yes. Yes. (Salima uncovers her eyes.) Blue. Blue. Blue. Blue. So, more important than our clothes or what we wear, is our face. You look at my eyes. It is the most important thing. Someone looks at your eyes. It is the most important thing. When you met your husband, you fell in love with his eyes. And his mouth. And his whole face. Not his clothes or shoes. Your face is your first impression. Your face is your business. It is your calling card. I want to tell you something. See this line? (Salima points to wrinkle on Lana's forehead.). In one second today, there is not going to be this line. I will show you something that will change your life. This woman has been here an hour (Salima gestures to a customer on the opposite side of the kiosk who is with another Atlantis sales associate.). She knows. Look how many products she's buying today. (The woman has five small bags full of bottles and tubes). May I show you something, Lana? Your face is most important. It is what people notice. Not your clothes or your shoes, your face. (Pause.) Look at the skin on your face and around your eyes. (Salima gives Lana a hand mirror.) What do you notice?

Lana: Dark circles. Puffiness under my eyes.

Salima: Right, like most women. Why do you think that is?

Lana: I'm tired. And I'm getting older.

Salima: No. You are using eye creams, yes?

Lana: Yes. How did you know?

Salima: (Wrinkling her face with concern.) Many women make mistake of using heavy creams under their eyes, which causes the skin to sag and makes us look older. What kind of cream are you using?

Lana: I use the department store creams…Estée Lander.

Salima: These creams are expensive, yes? But even more, these creams are bad for this sensitive skin here (points to skin under Lana's eyes). The creams are heavy and make the eye tissue sag. You should never, ever use this heavy cream around your eyes. Use a lighter eye serum. Do you know how many minerals are in this serum? (Salima gives Lana a tube of eye serum to hold.)

Lana: No.

Salima: This is a very special formula and contains 21 minerals. It is really good for this area under your eyes and the wrinkles at the corner of your eyes. It will make the lines disappear and you will look younger. Would you like for me to show you?

Lana: It will make me look younger? Yes!

Salima: It is ok to touch you? I have to ask everyone that question. I will put the serum around one eye and you will see amazing difference in one minute. (Lana nods. Salima begins gently applying the serum with her ring finger to the "laugh lines" on the side of Lana's left eye, underneath the eye, and to the "scowl" lines on one side of her eyebrows. She talks as she works.) Lana, these minerals heal this damaged skin tissue. They are essential for cell metabolism. Just relax your facial muscles. Do you feel the cooling? I am soothing your skin. This serum is also a natural disinfectant. We are removing built-up layers of sun damage. Now, Lana, you try to apply. (Salima puts a drop of the eye serum on Lana's finger and points to where she should apply it.) Gently, gently. That's it. Very good. And this serum also protects against UVA and UVB rays. This also balances the skin moisture. This has linoleic acid and alpha-linoleic acid, which are the essential fatty acids for younger-looking skin. Now we will wait another minute, and I am going to show you the difference. (As Salima has been applying the product, two other women walking by have stopped at the kiosk to watch the process.)

Salima: (Salima beckons to the two women.) Come, see the difference. Now, Lana, while the eye serum is working, I will apply anti-wrinkle cream to this curved line around your mouth, the one shaped like a parenthesis. This line tells your age. (Salima gives Lana the container of anti-wrinkle cream and, speaking for the benefit of Lana and the two other women, slowly dabs cream on the parenthesis line from Lana's nose to her mouth.)

Now promise me, Lana, you are going to throw all your other creams away. And I tell you why. This anti-wrinkle cream has a combination of 21 minerals from the Dead Sea and contains beta carotene—very healthy, comes from carrots—and Vitamin A. You like to take care of yourself and eat healthy, be healthy, yes?

Lana: Yes, of course.

Salima: Now, Lana, you apply cream now. (Salima puts a drop of the anti-wrinkle cream on Lana's finger and indicates where she should apply it.) Yes, that's it—just in the crease. This cream, you will see, restores your skin's elasticity and keeps it soft and smooth. It firms skin, here, so line is not as noticeable, makes you look younger, fresher and has anti-aging properties. You will see. Now we wait a few more moments.

Salima: (Stands in front of Lana). You're gonna promise me you'll throw all your other creams away? (Lana nods in assent.) Lana, do you know these people? (Salima gestures to the two passersby.)

Lana: No.

Salima: They will tell you. You will see. This will change your life. Cover this side of your face—the side that I have just treated with the cream—with your hand. (Salima moves aside and speaks to the two women.) Now, look at side that did not have cream. (The two women look at the untreated side of Lana's face.) Now, Lana, move your hand and show them the side I treated with special cream. (Lana moves her hand. The two women's eyes light up and they murmur in amazement about the difference before and after treatment. Salima gives Lana a hand mirror.)

Salima: Now you will look.

Lana: (Looks in mirror.) Oh my! I can't believe it. The wrinkles <u>are</u> really diminished!

Salima: (Confidently.) Yes, of course. And all natural. No chemicals. You use these products regularly and you look ten years younger. And if you look younger, it's gonna make you feel better. In a little bit, I will do your other side of your face so you don't look uneven. Now are you gonna throw your old creams away?

Lana: How long would I need to use your eye serum and face cream? Is this a permanent thing? Or will I need to keep it up the rest of my life?

Salima: No, No. You use them regularly—once, twice a week—for the first month and then from time to time, whenever you need. (The two other women nod goodbye to Lana and Salima and leave the kiosk.)

Part Five: A Full Year's Supply

Lana: How much is the eye serum?

Salima: This size bottle will last you for one year. It costs only $179.

Lana: (Gasps.) Did you say $179?

Salima: Yes, of course. How much do you pay for all your cosmetic creams? This eye serum and the face cream – these products are all you are ever gonna need again. This is a full year's supply.

Lana: How much is the face cream?

Salima: The cream is only $239. (Lana gasps again.) You get this entire jar which is gonna last you a year. After that, you're not gonna need any more cream. You're not gonna need cosmetic surgery. You will have natural and more beautiful skin. And is also good for this area sagging under your neck. People are gonna think you had a face lift! (Lana laughs) Look at these photos—one photo before of woman's neck. And this one after. See the difference! (Salima places an empty shopping bag in Lana's hands.)

Salima: So you like these products? Which ones will you use?

Lana: (Lana nods, still speechless at the price.) Well, I liked the nail buffer.

Salima: You like the nail products? Saves you lots of money. Very smart. (Salima places the nail care package with all four products in Lana's bag.) Only $59 for you. No more need to go to nail salon. You can do your nails yourself—fast. You like the eye serum, yes? (Hands Lana the mirror again and places eye serum in the bag.) Only $179 for a year's supply—maybe it lasts you even longer than that. You like the cream? This serum and cream make you look ten years younger! Don't take my word for it. Those other two women saw difference, too! Your friends will see difference. The cream is only $239. (Salima places cream in bag.) And I'm gonna give you my e-mail address. You write me anytime you need help with these products. Or e-mail me pictures. You have any questions, I am here for you. And you can give me your e-mail address and phone

number so I can get in touch with you and see how you are doing with these products. Let me get a piece of paper so I can write down your information. (Salima walks over to the register. Lana follows, bag in hand.)

Lana: (Gives Salima the bag of products). Thank you for all of your help and all of your time, but I can't spend this kind of money. This is over $400!

Salima: Yes. But is so good for you—all natural—and makes you look better—and lasts all year. Much cheaper than facelift and you do this for yourself. How often you pamper yourself?

Lana: (Admits.) Not very often.

Salima: So you pamper yourself now with these products. Save yourself lots of money. Do something nice for yourself.

Lana: I really can't. This is just too much money.

Part Six: More Deals

Salima: (Slumps, bends her head with her hand on her forehead giving the appearance of intense concentration and deep thought, like Rodin's *The Thinker*.) You know, Lana, I like you. You are nice lady. (Gives Lana the bag with the nail care package, eye serum, and anti-wrinkle cream.) Are you gonna use these products? O.K. Here's what I'm gonna do for you. You buy the nail buffer, the cuticle oil, the lotion, and the file. All of these products for you for only $59. The second package I give you for a friend for $29. You buy the eye serum for $179. You see the change around your eyes yourself, yes? (Gestures towards Lana's eyes.) (Salima lowers voice.) Don't tell anyone I told you this. For you, only you, I throw in the cream. As my gift to you. $239 dollars. Gift. Because I am the manager, I can do that for you. In exchange, you send your friends to me, but don't tell them that I gave you this cream for free. You tell people about these products. They're gonna see how good you look, you advertise for me. I can give you the cream at no charge. (Salima, complicit now with Lana, gives her a triumphant smile.). Now you pamper yourself on me. My gift to you.

Lana: But this is still over $200. Thank you, but I simply can't afford to do this.

Salima: (Incredulous, holding open palms out.) But you are worth it. I know this. It is your skin. Not your clothes. Skin is very important. Your health is very important.

Lana: It's just too much money for me.

Salima: (Downcast eyes, intense concentration) What is money? This is your skin we're talking about. I'm gonna help you. You have a friend, yes? You take two nail care packages, one for you and one for her, you can have for only $59 and $29. I still give you the cream. Come closer, Lana. The eye serum, (lowering voice) I give you for $139, my employee discount. Let me help you.

CHANGING THE GAME AT CHEROKEE NATION ENTERTAINMENT

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CASE DESCRIPTION

The primary subject matter of this case concerns building, communicating, and implementing a vision that will drive change in an organization. Secondary issues examined include overcoming resistance to change, building support in multiple stakeholder groups and powerful sponsors, the role of team leaders in the implementation process, acting with a sense of urgency and risk taking in implementing change. The case has a difficulty level appropriate for undergraduate seniors and graduate students, and is designed for courses addressing organizational change, leading change, and leading teams. The case may also be used to demonstrate strategic management concepts, including developing a vision and strategy implementation. It can be covered in a one hour class. Preparation for the case is expected to require 3-4 hours.

CASE SYNOPSIS

The case opens with Cherokee Nation Entertainment ("CNE") engaged in the process of evolving from a collection of low impact retail and bingo operations to a dynamic, growth oriented business employing current marketing and management concepts. Dave Stewart, CEO, is building a vision for CNE that embraces innovation and change in driving a transformation of the business' strategy and culture. The change in Oklahoma gaming laws provides the external opportunity. Stewart's vision encompasses a dramatic change in the basic philosophy of the business in attempting to integrate the edgy Hard Rock "culture" with the very traditional culture of the Cherokee Nation. The case follows Stewart and a Team of 8 key managers who navigate through multiple challenges and obstacles often encountered in transformational change in organizations. The vision and strategy provide the direction for change; however, the extent of the change provide significant challenges for Stewart and the Team of 8 in overcoming resistance to change, and building a sense of urgency so important to implementation. The case demonstrates one approach to building and implementing a vision and new strategy, and provides opportunities for students to analyze the key stages of organizational/strategic change.

The case ends with the opening of the Hard Rock Hotel and Casino Tulsa; however, the change process is not complete. There are still important issues for students to ponder about the future of the Hard Rock brand and CNE.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

INTRODUCTION

In 2006, Dave Stewart, CEO of CNE, was concerned about sustaining the strong growth and profitability that the company had experienced over the past several years. CNE's growth had made important contributions to the financial condition of the Cherokee Nation and had provided jobs for its people. The company had beaten the competition to the punch in opening Las Vegas style gaming in its casinos by anticipating and driving the change in Oklahoma laws. Advance knowledge of this critical external factor allowed CNE leaders to act aggressively, but they could not stand pat. Competition was increasing from other tribes, including the expansion of a rival gaming facility located only 20 miles from the flagship Cherokee Casino Resort in Catoosa, just outside of Tulsa.

Dave understood the necessity for change. There was little that differentiated CNE from the potential competition. In order to continue its growth, CNE sought a differentiation strategy that would separate it from other Native American gaming operations in the region, and help sustain the advantage realized by acting as first movers in the gaming expansion. His vision for continued growth by diversifying into new entertainment concepts and venues would evolve and develop.

A discussion with CNE's Vice President of Marketing, Molly Jarvis, about the Hard Rock organization in Las Vegas triggered a series of events that would drive change in CNE, its management team, and in its relationship with the Cherokee Nation – and provide definition to that evolving vision. While Dave clearly recognized the potential benefits the Hard Rock brand offered, he knew that he would face significant resistance in mixing the vibe of Hard Rock with the cultural conservatism and great traditions of the Cherokees. How could he convert the vision into reality? How would he overcome resistance to change and commitment to the status quo in his organization and in the leadership of the Cherokee Nation, who must approve any of his plans? How would he build a team that could implement the vision with urgency and effectiveness before the competition could act?

The task was not for the faint of heart, nor for those who favor the familiar and safe. It would require real and sustained leadership from Dave Stewart and his management team, and support from the Cherokee Nation Tribal Council and Principal Chief of the Cherokee Nation, Chad Smith.

BACKGROUND

The Cherokee Nation, headquartered in Tahlequah, Oklahoma, is recognized as a sovereign nation by the United States government. One of the Five Civilized Tribes, the Cherokee Nation has historically played a central role in the economic, educational and cultural life of the northeastern part of Oklahoma. A major objective of the Nation and its businesses is to maintain and enhance the traditions, culture and language of the Cherokee people who were forced to relocate to Oklahoma via the Trail-of-Tears from their ancestral homes in Georgia in the 1800s.

Inspired by its great scholar, Sequoyah, the Cherokee Nation plays a key role in education in northeast Oklahoma, founding the region's first institution of higher education, the Cherokee National Female Seminary in 1846, now Northeastern State University. The Nation and the university partner with area businesses and communities to enhance the culture, economic development and education for the region. The Cherokee Nation owns eight major companies involved in multiple industries. All efforts are directed toward improving and enhancing the lives of the people of the Cherokee Nation. The Nation is governed by a Tribal Council with an elected Principal Chief who is the chief executive in political and economic affairs of the Nation.

The tribal business entity which eventually became CNE, the focus of this case, was formed by the Nation in 1991. At the time of its creation, such business entity's sole source of revenue came from a bingo hall located in Roland, Oklahoma. Over the years, CNE expanded into a variety of operations, including casinos, gift shops, retail tobacco stores, golf courses, a racino facility, a travel plaza, a tourism group, and most recently, hotels. CNE was created in order to generate revenue for the tribe, to provide jobs for Cherokee citizens and to stimulate economic development within the Cherokee Nation, while concurrently supporting and enhancing the cultural goals of the Nation. CNE is required by the Nation to feature Cherokee culture and art in all hotels and casinos – a potential source of conflict and tension between "profit" and "culture". Over sixty percent of the employees at CNE are Native American. CNE is managed by a board of directors at its parent company level with CNE's chief executive officer having general supervision, direction and control of the business and officers of the company. Board members of the parent company and the CEO are appointed by the Chief, as the representative of the Cherokee Nation, and confirmed by the Tribal Council. Although the board of directors and the CEO predominantly handle the business operations of CNE, certain decisions must still be approved by the Tribal Council. The Cherokee Nation benefits financially by receiving thirty percent (30%) of CNE net revenues.

CNE: THE GROWTH STRATEGY -- 2002 TO 2007

Within a year of joining CNE as CEO in 2002, Dave Stewart launched an aggressive expansion at CNE with two goals in mind. The first was to expand the company's target market from the blue-collar guest ($20-30,000 income level) to include higher income guests seeking a broader entertainment experience. This initiative included the acquisition and renovation of a golf course, the construction of a 7 story/150 room hotel and an increase in the number of electronic bingo games from 700 to 1700. These "bingo" games have the look and feel of a slot machine, creating an environment similar to that of a Las Vegas style casino. It was an effort to make the "casino" more of a weekend get-away destination. What was not known to the public at that time was that Stewart was participating in an organization whose purpose was to make gaming, other than bingo, legal in the state of Oklahoma, a critical step in achieving the second goal – developing an entertainment center around a Las Vegas style casino.

On November 2nd, 2004, the citizens of Oklahoma passed a referendum allowing Indian tribes to enter into compacts with the State of Oklahoma to expand their gaming operations beyond bingo. Stewart had successfully expanded CNE, positioning it to open its doors to casino-style gaming as soon as the Cherokee Nation signed its gaming compact with the State of Oklahoma. While others scrambled to create facilities and provide the games the public was looking for, CNE was one of the first to enter the market.

In order to beat the competition, Stewart convinced the Nation to spend $80 million on renovations to the Catoosa facility, while working concurrently with the state of Oklahoma to legalize gaming. This involved a significant risk. If it had failed, the Nation would have had $80 million in improvements tied up in a bingo hall. But the gamble paid off as the first hand of blackjack in Oklahoma was dealt at the Cherokee Casino Resort in 2004. The transformation from bingo hall to "Las Vegas" gaming brought legitimacy to this enterprise, promoted the Cherokee name, and became a source of pride for many of the Cherokees involved, who felt like stakeholders in the enterprise. The Cherokee Casino Resort became a facility which was a far cry from the simple bingo halls marginally attached to Native American land sprinkled throughout the highways of rural America. Eventually a 3-4 star hotel was added to the casino and it became a facility that could have been on the Las Vegas strip. The electronic gaming electronic gaming machines were bringing in revenue that justified the $80 million outlay for the conversion.

By 2007, CNE had expanded to seven locations within the fourteen county territory of the Cherokee Nation. The Cherokee Casino Resort located in Catoosa had taken off. It garnered a reputation for service, friendly staff and a fun experience for its guests. As the first to market with a Las Vegas style gaming experience, CNE found that it held over 40% of the market and revenues topped $400 million in 2007. Many CEOs would have been satisfied with this, but Stewart saw how quickly his competitors had caught up after the initial state approval for "Las Vegas" style gaming. He instinctively knew that he would have to differentiate the casino while

still being able to leverage the financial and political momentum from the successful 2004 conversion.

CNE worked hard to set its casinos apart from the competition in the minds of their guests by employing themes from different Cherokee historical periods, complemented by authentic Cherokee art. The incorporation of tribal art and culture in the gaming facilities was the most visible distinction between CNE and its competitors at the time. The guest and the Nation both benefited from this cultural integration. Unlike other tribes, CNE successfully built and operated casinos without outside management assistance. The Cherokee Nation's ability to manage its own operation and the promotion of Cherokee art and culture in its facilities (a Tribal requirement) provided a sense of pride for the Cherokee people. Pondering his next move, Stewart was quite aware that introduction of the Hard Rock into this traditional environment could create disagreement and concern.

So far, Stewart's actions had built upon the foundation of the Cherokee tradition, increasing revenue and adding jobs. He had risked $80 million with the conviction that Las Vegas style gaming would be approved by the State of Oklahoma, but this was purely business risk and did not involve cultural issues. Nor did it require a substantial shift in the way his organization had operated. That was about to change with the introduction of the Hard Rock theme to the Catoosa casino.

DAVID STEWART: EVOLUTION OF THE VISION

In 2002, Dave Stewart agreed to take the helm as CEO of CNE. Dave had started his career as a CPA, but had completed his MBA and gained executive experience with companies smaller than CNE, the largest of which had 100 employees. There was nothing obvious in Dave's history that explained Dave's commitment to strategic innovation and change, but it was clearly there, and was driven by a vision.

Dave Stewart's approach to business includes a focus on "touch points", the point of contact where employee actions and services affect guests. His philosophy embraces aggressive but sustained growth, leveling the peaks and valleys throughout the business's lifecycle. His focus is to anticipate the next valley or decline in growth well in advance, and alter the company direction to avoid the valley altogether. Dave put this philosophy into action at CNE. He consistently engaged the people at CNE and encouraged them to move out of their comfort zone and stretch their vision of what the company was and what it could achieve. He not only wanted to take on the competition, but change the landscape. The Hard Rock opportunity upped the stakes, and provided a vehicle for driving the vision.

The opportunity of incorporating the Hard Rock brand in the flagship casino/resort brought clear definition to Stewart's search for differentiation, and would act as a lightning rod for supporters and dissenters alike. Like many visions, developing support and overcoming resistance would involve engaging and convincing multiple stakeholders, making adjustments on

the run, engaging and encouraging supporters at every step, and driving the process with a tremendous sense of urgency, lest it fail due to organizational inertia and commitment to the status quo. Dave would have to work on three major fronts. Perhaps the most critical of which would be the Cherokee Nation and its leadership, which had committed to the Cherokee brand. The second front would be CNE itself, including management and employees who would have to fight off the fear of the new and unfamiliar, and engage in, if not embrace, transformational change. The third front was the Hard Rock organization itself, which was involved in a major venture with a tribe located east of the Mississippi River, and may have been skeptical about licensing the Hard Rock Hotel and Casino brand to a Cherokee enterprise.

Dave Stewart was committed to pushing change in CNE and in the Cherokee Nation. It had to start with Dave himself. He was fully committed to a transformation for the Catoosa casino and for CNE. He was dedicated to do whatever had to be done to make his vision a reality in the face of significant obstacles. Looking back, one of Dave's key managers quoted Jim Collins, in his book "Good to Great" (Collins, 2001), when describing Stewart as a "level-5 leader" with the hallmark trait of great leaders – tenacity. Once the leader is convinced, there is no stopping him. Dave took all issues head on, not sideways or backdoor. He had to sell the vision, and he did. It did not matter whether it was engaging employees at the casino or a Tribal Council member. His message was consistent and persistent.

Dave would rely on his commitment to the vision, his tenacity, his willingness to engage anyone and everyone he could reach, and his understanding of building partnerships with tribal and CNE leaders. This could never be a one man job. Others would have to see the vision and embrace it or it would be doomed.

SELLING THE VISION TO THE CHEROKEE NATION

Stewart's first pitch for the Hard Rock brand was met with substantial resistance in the Nation. Upon hearing the idea of re-branding the first time, Chief Smith did not like it and was reluctant to get on board. The Catoosa casino was a business to be proud of. It advertised the name "Cherokee" and identified that name with a successful resort. Citizens and employees Chief Smith encountered had similar, sometimes negative and emotional responses. The Cherokee people identified with the Catoosa Cherokee Casino Resort, and felt a sense of pride in the association.

The substantial opposition among the Cherokee people to CNE featuring the Hard Rock brand and culture on their flagship resort would create a significant obstacle for partnering with the Hard Rock franchise. Chief Smith received questions, complaints and concerns from many of his constituents: "Are we not proud of our name?" "Why would we want to remove it from the sign?" "Why would we give our company away?" "Why is the Tulsa property to be called Hard Rock and not the other six facilities?" It was clear that many were proud that the Cherokee Nation operated a modern, successful enterprise that promoted its art and culture, and did not

like the idea of diffusing that recognition and identification with the Nation. There was strong support in the Nation for combining business and cultural development without change!

On the other hand, Dave Stewart made a strong case for higher growth and profitability that would come with the Hard Rock strategy. This argument fit with Chief Smith's policy of letting business leaders run the business, while he and the Tribal Council led the Nation, keeping politics and business separate. In this case, however, that separation would be difficult.

Chief Smith continued to consider the issue for weeks until he ultimately came to the conclusion that the Cherokee name represents a great deal more than the image presented by a casino marquee. The word "Cherokee" should reflect the history, the capabilities and the successes of its people and its culture. Changing the name and theme of the Casino and Resort in Catoosa could actually enhance the reputation of the Nation. It should be recognized for developing successful and profitable businesses for the benefit of its people, and for providing a unique recreational opportunity for the people of Oklahoma. Moreover, the Hard Rock brand had the potential to provide significant financial benefit to the Nation and its people. Hard Rock could indeed change the game.

From that point on, Chief Smith supported the change in the face of substantial and vocal resistance. Chief Smith believed that some of the critics would eventually come around, while others would never support the change. But even months after the brand change, doubt still exists in some members of the Cherokee Nation as is evidenced in opinion letters written to the editor of the Cherokee Phoenix, the tribal newspaper.

Chief Smith's "conversion" to supporting the Hard Rock concept was not out of character. He believes in a proactive approach to change, and encourages initiative by the leaders of each of the Cherokee Nation-owned businesses. Chief Smith places priorities on tribal and individual self-sufficiency, elderly care services, better quality health care and education. He and his administration continue to focus on three essential initiatives: jobs, language and community. Chief Smith encourages autonomy in each business, as long as the businesses are operated to support the people and the community.

The Chief recognized that there would be opposition and resistance to utilizing the Hard Rock brand that would have to be overcome or simply lived with. He understood that "good business decisions are not often good political decisions; good political decisions are not often good business decisions." The role of the Cherokee Nation-owned businesses is to improve the economic condition of the people, and create an environment for change. The branding decision would be a means to an end. Chief Smith also believes that building a successful, multi-faceted entertainment complex with an effective marketing approach is "a positive" for the Cherokee Nation. People outside the Cherokee Nation would see a successful organization fully identified with the Cherokee Nation. Chief Smith's values and beliefs led him to lend his support to utilizing the Hard Rock brand.

With the Chief's support ensured, Dave Stewart would need the approval from CNE's board of directors and the Tribal Council. The board and Council were influenced by the Chief's

logic, but required solid profit projections for the change to Hard Rock. Stewart responded by putting together a convincing financial report supporting the change, which was another element of the decision process put together as the project evolved. The board had other questions, which Stewart answered one-by-one. Dave's communication went beyond the formal meetings in answering questions, providing information and ensuring that all had a chance to discuss the issues. He individually met with each member of the Tribal Council to encourage buy-in and address individual concerns. This reflected Dave's style of engagement and communication, with a consistent focus on the end point.

With the questions addressed, the Chief's support assured, and a positive ROI projected, the board agreed to support the change, as did the Tribal Council.

BUILDING THE TEAM OF 8

One of the most difficult tasks was to overcome resistance and fear of change in CNE itself, and to transform an organization that could build and operate a Las Vegas style casino – a far cry from the bingo parlor approach of the early 90's. There were a number of underlying causes of resistance and fear of change inside CNE. These included concern over downgrading the Cherokee name, anxiety over different working conditions and requirements, questions over "why change was needed anyway", fear of moving outside employees' comfort zones, and general inertia.

Stewart understood that he could not do it alone; he would need talented leaders who shared his vision and enthusiasm, and who would work together under difficult, stressful conditions. Dave's solution was to look inside and outside his organization and select people with talent who would fully embrace the vision. No lukewarm leaders were needed. The core of this group was described as the Team of 8, but there would be others who made significant contributions. One of the team members compared Dave Stewart to the famed Oklahoma Sooner football coach, Barry Switzer, who always looked for the best athlete, or, in this case, the most talented and committed people he could find – the key players who would get the job done with a high level of urgency! It would be clear to those involved in the project that Stewart would not get into the details, but would be accessible and active in significant decisions, or in breaking down barriers that would threaten the urgency necessary to move quickly. Dave has been described as a master at being a champion of change, always encouraging and expecting collaboration, communication and risk-taking from his key people.

Dave would continue to sell the concept and engage employees and managers at CNE and in other Cherokee businesses whenever possible, but the greatest contribution would now shift to the Team of 8. The team included managers from different levels in the organization, and from different functions. They would be responsible for planning the project, executing the plan, and helping/convincing their colleagues and employees to join in the transformation.

Moreover, they would continue to manage their existing responsibilities, requiring significant sacrifice and commitment. The Team consisted of:

- Molly Jarvis, Vice-President of CNE Marketing
- Bob Schooley, Director of Organizational Effectiveness
- James Carter, Tech expert and Construction Project Manager
- Jon Davidson, Sr. Director of Hospitality
- Michael Grim, Corporate Promotions Manager -- driver of the Hard Rock "Vibe",
- Mark Fulton, Vice-President of Gaming
- Bob Zablonski, General Manager
- Brent Thompson, Vice-President of Administration

The Team of 8 was charged with the responsibility of building and implementing the plan, of bringing the rest of the organization along, of overcoming the natural resistance, and of training people who would make the Hard Rock a success. But first the eight individuals had to figure out how to work together, and still drive their individual responsibilities.

The Team of 8 would have to develop effective working relations among the team and with Dave Stewart, who was already miles ahead of the team in thinking, urgency and commitment to making it happen fast! Dave selected the eight with the idea that they would implement the project with little direct supervision, but with full communication on the big issues. The challenge of convincing a skeptical workforce and CNE managers would be a daunting task for seasoned change-leaders, and most of these eight managers had no experience in anything like the challenges of creating the Hard Rock environment, and engaging an entire organization in transformational change.

In building an effective team, they had to address the first form of resistance, which would come from the Team of 8 themselves. The team members had questions of their own. Are we ready to take on risk, move with an urgency that requires taking chances, of acting first then fixing it later if we make a mistake? Are we moving too fast? Will we get approval from the Nation and our new partners and when? How do we get things done and stay connected with each other? How will we deal with the conflict between Cherokee culture and Hard Rock marketing?

As important, the team of 8 would have to take risks most had never taken in their careers – with concern over their own success and jobs, and those of their associates. The natural aversion to taking risks by team members and others in the organization may have been the most important barrier to change and impediment to success that the team faced. Burying these concerns from key players could overcome opposition temporarily, but could ultimately jeopardize the entire project and undermine all other efforts. This kind of resistance could also be turned to a positive, providing important "checks" along the way and making the team

stronger and more effective. This would be essential, because this team and each individual member would have to "knock down walls" to make the transformation on time.

Each of the team members had specific responsibilities, and was encouraged to act independently. This level of initiative was crucial to moving at the fast pace necessary to complete the project on schedule. Additionally team members had questions of their own about the direction, cultural tensions, risk level and pace. The team was informally organized, so the team had to develop mechanisms to stay in touch and deal with issues and road-blocks. Three team members provided coordination over spending, potential conflicts, and tracking the critical path through individual contacts with the Team of 8 and others who were involved in the process. Part of the informal process was to track spending, take different ideas and combine them, and work toward consensus among the members. As overall inspiration, Dave Stewart's commitment and passion set the stage and continually provided drive and overall direction to the team. However, members of the team still faced questions and problems along the way that required swift and conclusive agreement! Delay or disjointed efforts would jeopardize the quality and timing of the project.

To deal with these issues and continue to stay on track, the team met every Tuesday to review status and issues. James Carter took ownership of the critical path of activities and milestones, and kept it up to date and in front of the team at all times. Michael Grim drove the "vibe" concept and pushed the Hard Rock concept to its extreme. Mark Fulton acted as the anchor to keep the group grounded and avoid taking actions that would be considered too extreme. Jon Davidson was responsible for all furniture, fixtures and equipment, and the Hard Rock retail store and merchandise. Molly Jarvis directed all marketing activities. Bob Zablonski focused on running the facility and coordinating presentations to the employees. Brent Thompson organized employee orientations. Bob Schooley focused on the effectiveness of the organization and communication with Dave Stewart.

Not surprisingly, conflicts arose over different approaches and perspectives. Rather than allowing these to bog down the Tuesday sessions, the team adopted the "Parking Lot" concept. This is a group technique that "parks" an issue, idea or concern so that it does not disrupt the flow and progress of a group. The process requires a separate discussion with the right people outside of the normal meeting. The parking lot employed "offline" conversations to address questions and issues openly with other members of the team and Dave Stewart to get the answer and maintain momentum.

Although Dave stayed out of the day-to-day mix, his role in this process was critical, providing leadership at the critical points. He always took the issues head on, created a sense of urgency, and kept the team moving toward the goal. His leadership increased the efficiency of the team and streamlined the process for resolving conflicts and questions. Team members were able to vent their concerns openly and get answers – continuing to build trust among the team and encouraging all to keep taking risks! This process also encouraged the Team of 8 to act. It

did not take long before the eight became agents of change themselves, spreading the word on their own.

THE TEAM OF 8: LEADING CHANGE AT CNE

The employees at CNE, largely Native Americans, would be concerned about the impact of changing the name from Cherokee to Hard Rock. How would they be viewed by fellow Nation members? Would they have to compromise the Cherokee reputation and name? Voices from other influential leaders in the Cherokee Nation reinforced this concern.

CNE employees would also be anxious about the uncertainty associated with the new theme and expectations about their roles. One associate wondered if he had to get a tattoo; another if she would have to wear nose rings; another if they were too old. This fear of the unknown created more problems than actually existed, requiring effective communication with those most affected. As in many organizations, there would be those who simply fight any type of change that affects their routines – and this would be one of those big changes that would turn many of those routines upside down. The team had to develop a plan to deal with all of these concerns and prepare the organization to execute all phases of the project. This process was included in the critical path.

A first step was to capitalize on the day-to-day contacts the Team of 8 had within their respective departments, a natural place to share information. The notion was to allow this information to spread through the company informally, encouraging those engaged to use their own informal network to spread information across the company. Dave Stewart set the stage by formally meeting with every supervisor in CNE, but encouraged the team to use a combination of structured and informal contacts. One of the team members created a cadre of 15 ambassadors who leveraged the communications efforts of the team. These ambassadors multiplied the efforts of the core group. All members of the team went out of their way to communicate with and educate their associates and friends. This "grapevine" approach proved to be very successful in motivating CNE employees. The more information that was "leaked", the more the excitement and discussion spread through the organization. In this way, the Team of 8 became champions of change and trusted sources of information, spreading the word.

The structured plan included a roll out to the employees that consisted of events designed to generate excitement and support from within. One of the numerous communication events was the give-away of 500 Hard Rock Tulsa t-shirts to employees who asked questions about the project. Not knowing how well the plan would work, the Team of 8 was surprised that employees were eager to get one of the t-shirts, producing a rush of questions. Winners wore the t-shirts, creating additional interest. Another series of events that assisted in spreading the word and excitement about the brand change was the "Catoosa Unplugged" meetings, which positioned the new vision as a license for employees to have fun, and encouraged them to interact with company leaders. The meetings also included a tour of the high-end suites and

other points of interest within the complex significant to the Hard Rock theme. Dave Stewart personally met with almost every shift supervisor to explain the transition, emphasizing his excitement and support.

An internal newsletter called the "Vibe" was created where news of the transition was written, accomplishments were celebrated, and where music trivia could also be found. The shift in approach was designed to create a guest experience focused on music, fun and great service. The new employee orientation program was modified and all existing Catoosa employees, as well as new employees were encouraged to participate in "re-orientation". The program included a comparison of two identical presentations – one without music, the other set to music which dramatically reinforced the "vibe" concept. By developing a better understanding of the Hard Rock "vibe", employees were more effective in contributing to their guests' experiences.

Physical changes and guest contact were also important. Employee uniforms were changed to reflect the new theme. The employee entrance was redecorated to include light covers that adjusted the normal white light to red and orange. The walls were painted a standard Hard Rock color, purple, and adorned with examples of new uniforms, lyrics from songs and memorabilia from rock bands. Scripts were created and disseminated to front line employees complete with answers to nine questions that guests would likely ask. The employees would know how to answer these questions in a consistent way to deliver the right message. The script emphasized serving the guest, and focusing on the positive aspects of the Hard Rock brand.

As the opening day approached, the Team of 8 believed that over 70% of the employees had accepted or had committed to the change, but that they would need to continue to work toward a higher level of acceptance as an ongoing process. According to benchmark Hard Rock operations in other parts of the country, this could take another year or more to accomplish.

NAVIGATING THE DEAL WITH HARD ROCK

Internal resistance would not be the only major issue Stewart would confront. Planning for the expansion of the Catoosa location began in 2005 and although the expansion would be good for business, his vision required a higher level of differentiation. The affiliation with an international brand like Hard Rock would solidify the vision, and provide the edge CNE sought. Stewart felt that the upside would be four-fold: 1) Hard Rock would reach a new demographic, 2) Hard Rock would be a current, sustainable brand, 3) Hard Rock incorporates values such as environmental protection and individualism that are consistent with the Cherokee Nation, and 4) Hard Rock would be managed by CNE. The Hard Rock vibe and competitive advantage could not be duplicated by the competition.

In 2007, CNE utilized the services of an outside marketing agency based in Las Vegas. The President of this agency offered to introduce Stewart to the owner of the Las Vegas Hard Rock Hotel and Casino. It was at this meeting that discussions of a possible license agreement between CNE and Hard Rock began. The more Dave Stewart thought about it, the more he liked

it. Quietly, he continued to work with the Hard Rock people on a potential agreement, but told no one of the impending contract and negotiations.

Unfortunately, a deal was not in the cards at that time. Negotiations came to a halt later that year due to negotiations between Hard Rock Las Vegas and a tribe located in Florida. Hard Rock International, the company that owns the Hard Rock Cafés, Hard Rock Hotels and Hard Rock Casinos world-wide was purchased by the Florida tribe but with important restrictions. Although the Florida tribe owned rights to all things Hard Rock, the agreement restricted their operation of casino facilities to locations east of the Mississippi River. The Hard Rock Hotel and Casino in Las Vegas was not part of the deal. The opening for CNE still existed in that the Hard Rock Las Vegas group had the right to operate and control the Hard Rock Casinos in substantially all states located west of the Mississippi River, including Oklahoma. Although the sale of the Hard Rock franchise had put the negotiations on hold, Dave had not given up the idea. He continued to work on the tribal and internal CNE issues while discussions were on hold, but would not lose sight of the ultimate vision.

Negotiations resumed in 2008 for a license agreement between CNE and the Hard Rock Las Vegas organization. Dave Stewart's first challenge was to sell the Hard Rock Las Vegas management on the Tulsa area. It would be only the seventh Hard Rock Hotel and Casino in the world, competing with locations like Macau! A compelling case was based on the market potential and the capabilities of CNE. The Hard Rock Las Vegas group already understood that Oklahoma represented the third largest Native American gaming market in the United States. CNE managers provided convincing information about the potential for the Tulsa market as a desirable location. Another critical element was CNE's capabilities and commitment. Stewart's vision was consistent with the Las Vegas concept. The CNE organization's initial success as the first mover in developing and managing Las Vegas style gaming in Oklahoma was another key factor in the decision. The two organizations intensified the negotiations.

With the negotiations going well, Stewart could not keep the idea a secret any longer. As he worked through the culture issues with the tribal leaders, research was initiated to determine if the Hard Rock brand was past its prime or whether it was still a viable brand. Focus groups were utilized and CNE found that the brand had a positive impact on CNE guests. Stewart personally attended these focus groups and when he saw the questions were not appropriately addressing the situation, he re-directed some of the questioning on the fly. Guests were asked to rate where CNE stood on a scale of entertainment in the Tulsa area compared to its competition. On a scale from 1 to 10, guest responses averaged out to an 8 for CNE with CNE's closest competition behind at a 6. Guests were then asked how they would rate CNE if it changed to Hard Rock and the responses averaged higher, some up to a 10 on the scale. These responses bolstered Stewart's confidence regarding the change and convinced him that such a change would give CNE an important edge over its competition.

Armed with positive results and prior to approval at the Cherokee Nation level, Stewart instructed the architects to design the Catoosa casino and hotel expansion projects with two

potential outcomes, one themed for Cherokee culture and the other themed in accordance with the Hard Rock brand. Although Dave Stewart was committed to the concept and fully believed he could make it happen, there was still significant uncertainty in being able to satisfy both Hard Rock and the Nation. This would not be resolved until the new opening!

IMPLEMENTATION – THE CRITICAL PATH

By December of 2008, a lot of work lay ahead for the Team of 8. Concurrent with working out their individual issues and building support broadly across the CNE organization, each member had their own set of responsibilities and a tight schedule to meet. An additional issue was that the casino expansion was complete and the structure of the 19 story hotel tower was already built. With negotiations still ongoing and approval by the Nation pending, the team had to keep two options open, Hard Rock and traditional Cherokee theming. Time was short and there were numerous issues and tasks to be completed. The following examples provide some sense of the controlled chaos that they had to work through in the process. This controlled chaos reflects the often messy reality that exists in real change efforts – a stark contrast to the "orderly" models that attempt to capture the structure of change efforts.

Team members completed on-site tours of other Hard Rock properties in order to learn what it means to be Hard Rock, but also to understand that location would dictate some differences in approach. From those visits, the team was able to visualize how the Hard Rock experience could provide a unique experience to each guest, and how music and entertainment affects individuals differently. Consequently, each Hard Rock property was different, and so would the Hard Rock Tulsa. The Team of 8 recognized that they could retain that which was already working (including some elements of the established Cherokee brand) while adding music to make it a more fun experience for guests. The team also integrated two types of music, one consistent with Hard Rock theme, and the other, the very popular country-western music that many of their guests would expect. The decision to add country-western style music to Hard Rock may appear an odd choice; however, the team was careful to do their research with focus groups, thus increasing the likelihood of success, and avoiding unnecessary risk to the full project.

Another major effort was required to convert the list of currently branded items that required the new logo. The original list of 257 items quickly grew to over 400, requiring over 2500 art job changes. Room keys required new logos and artwork. Seven different key card designs were made, allowing for a variety of experiences for guests. Signage both exterior and interior to the property had to be redesigned and replaced. This required review and approval of artwork and design as well as construction and installation of new signage. When the large pylon sign adjacent to the highway was installed prior to the grand opening, floor traffic dramatically spiked and requests for the new Hard Rock Hotel and Casino Tulsa t-shirt increased.

The Hard Rock personnel from the Las Vegas hotel and casino agreed to come to Catoosa for a walk through of the facility, providing a list of suggested changes to be considered. This list was full of general statements, such as "upgrade the 'Twisters' bar." Often, these suggestions lacked specificity, creating additional work to develop options and the need to agree upon actual designs. The suggestions included a new design for the bar and many other interior features. This led to additional issues, obstacles and cultural conflicts that the team had to deal with even as the deadline rapidly approached. They continually had to balance their actions and changes with the desires and directions from the Chief and the Tribal Council.

One of the most critical changes was centered on the rock and roll memorabilia essential to the Hard Rock brand. The original plan called for rock and roll memorabilia and art to be used throughout the new casino and hotel, but there were still some issues on how best to integrate with traditional Cherokee art and culture – causing some concern over finalizing the details. Ultimately, the team worked through all of the issues in time for the opening.

THE FINAL DAYS

The team was stretched to the limit as the first deadline approached, and had to be delayed due to normal construction issues, causing problems in coordinating advertising and promotion, and booking acts for the grand opening. To add to the stress, greater uncertainty was introduced by the conflicts involving competing agreements that protected the rights of the Cherokee Nation as a sovereign Nation. This tension would continue to almost the last minute.
The Cherokee Nation is recognized as a sovereign nation by the United States government. This sovereignty places the Cherokee Nation on the same legal plane as any of the fifty States. This sovereignty allows the Cherokee Nation to have its own laws, law enforcement and court system. Although Stewart was responsible for the contract negotiations and directing CNE's business, on this point Stewart could only influence people, not decide and thus needed the approval from the Cherokee Nation's Tribal Council. A "No" vote would create another obstacle and potentially could have changed the outcome of the negotiations. At no time was the business decision in the Tribal Council's hands, but the vote would certainly affect the ongoing negotiations. With the vote being public, the Cherokee citizens had an opportunity to have their voices heard regarding the change. Stewart ultimately won the support of the Tribal Council.

Even after the license agreement was executed by the parties, the agreement still had to be submitted to the National Indian Gaming Commission (NIGC) for review to determine whether the agreement gave the Hard Rock entities managerial control over the operations of the facility. The parties subsequently amended the agreement and eventually the NIGC determined that the amended license agreement did not constitute a "management contract", and thus did not require approval from the NIGC.

The announcement that the Cherokee Casino Resort in Catoosa would become Hard Rock Hotel and Casino Tulsa almost lead to a contract cancellation for a "Toby Keith's I Love

This Bar and Grill" within the facility. Toby Keith is a well known country-western singer with roots in Oklahoma. The addition of his restaurant was important to the success of the facility expansion and complemented the dual musical theming. When Stewart heard of the impasse, he acted swiftly to retain this important part of the concept. He was quickly on the phone to explain that there would be no Hard Rock Café and thus no competition for the Toby Keith restaurant (other than those operated by CNE, which had been part of the original agreement).

Finally, on August 3, 2009, the final sets of agreements were signed, only hours before the grand opening. An exhausted and inspired team could relax for a moment as they looked back over the last year and a half of intensive effort. It had been a complex and consuming experience. There were times when success seemed illusive, but, ultimately, it all came together just in time for the grand opening.

THE CHALLENGE – WHAT'S NEXT?

The Hard Rock Hotel and Casino Tulsa was a critical building block in the growth plans for CNE. With the grand opening now accomplished, the focus must shift to maintaining the growth and profitability of the facility itself and for CNE in total. Standing still is not an option. Moreover, the competition is heating up. In the summer of 2009, a competitor completed a major upgrade of its Casino located on the south side of Tulsa, across town from the Hard Rock Hotel and Casino. Another competitor continues to build and upgrade its casinos in the region. Will this competition impact the revenue of the Hard Rock Hotel and Casino Tulsa? Will the novelty wear-off after a few more months, or will the revamped team continue to regenerate the "vibe" with innovative and fresh concepts?

Another challenge is organizational. Too often businesses go through a major change, and then "refreeze" at the new level, actually turning the new approach into the status quo. Key players move on. The team loses its edge, and may experience burn-out after the excitement and pace of the transformation diminishes. This is a real issue for CNE. The resort itself still requires some shaking out and will require a critical review of what is working well, and what is lagging. The team and Dave Stewart have discussed expanding the scope of the Hard Rock Hotel and Casino Tulsa facility to include other venues and entertainment/retail concepts. How can this evolve? What kind of venues and concepts are most likely to succeed? How can they leverage the success of the facility? How will the team keep the excitement up within the community and with their associates?

There are other population centers within the Cherokee Nation territory. One of particular interest is near the Arkansas border and in the Bentonville/Fayetteville population centers (Wal*Mart Headquarters is located in Bentonville). Can CNE capitalize on this void? How?

The tension created by changing to the Hard Rock brand instead of the traditional Cherokee theme still exists. How will Dave Stewart and Chief Chad Smith view this issue and

its impact on future marketing decisions? Is there more work to be done with employees, tribal members, and the Tribal Council in accepting the Hard Rock brand?

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SOMETIMES A SIMPLE CHANGE ISN'T SO SIMPLE

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CASE DESCRIPTION

The primary subject matter of this case concerns change management. Secondary issues examined include planning for change, empowerment, training, implementation, and political resistance to change. The case has a difficulty level of four. The case is designed to be taught in three class hours and is expected to require three hours of outside preparation by students.

CASE SYNOPSIS

Integrated Health was a large private, nonprofit health care system located in Tempe, Arizona. A year ago, the decision was made to implement a computerized medication administration record (MAR) at Integrated Health. During the first year, the MAR system would be implemented at Central Hospital of Tempe. After the "bugs" were worked out, the computerized MAR would be implemented system-wide. The MIS department at Central Hospital was designated as the initiator and direction setter for the project. Art Smith, the Chief Information Officer at Central Hospital assigned Kate Cohen, a programmer/analyst, as project leader. Kate had the responsibility for developing and implementing the MAR project at Central. Kate did the programming work for the MAR and assembled a team from Pharmacy Services, Nursing Services, and Internal Auditing. Members of the project team provided feedback on the software, made suggestions related to user training, and worked on an implementation schedule. Both team members and outside observers recognized the difficulty in developing and implementing the MAR in one year. Nurses' antagonism toward the project surfaced after their suggestions and recommendations were rejected without explanation. The MAR project was also affected when a management "shakeup" occurred during the project development phase. The MAR was implemented and immediately failed. By 10:00 a.m. on the first day of the implementation, users complained that the system did not work and was too complicated. After hearing nurses' complaints, physicians expressed concern about patient safety. At 1:30 p.m., Central Hospital's computer system crashed, and the MAR project was suspended. Early the next morning, we find Kate contemplating what she is going to say when she meets with Central Hospital's management group later in the afternoon.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

INTRODUCTION

On Monday, Kate Cohen was excited because the day for implementing the new computerized medical administration record (MAR) had finally arrived. The medication administration record was a chart of all of the medications administered to a patient by the hospital staff at Central Hospital. Kate, a programmer/analyst in the Management Information Systems Department, led a team to computerize the MAR. The team had been working diligently on the pilot project for a year and hoped for a smooth execution. The computerized MAR was launched and immediately failed. By 10:00 a.m., floor nurses and staff pharmacists complained that the system did not work and was too complicated. After hearing nurses' complaints, physicians expressed concern about patient safety. At 1:30 p.m., the computer system crashed, and the MAR project was suspended. Late in the afternoon, Kate assembled the project team to study the project failure.

On Tuesday, Kate Cohen arrived at work early feeling very worried and anxious. At 2:00 p.m., Kate will make a presentation to Central Hospital's management group on the MAR project failure. As Kate began to prepare for the meeting, she thought back over the evolution of the MAR project.

BACKGROUND

Central Hospital was a community hospital affiliated with Integrated Health, a large, private, nonprofit health care system in Tempe, Arizona. Integrated Health consisted of four community hospitals located within a 75-mile radius, three long-term care facilities, a heart institute, a cancer treatment center, two graduated care retirement facilities, a hospital services company, and a health maintenance organization. Integrated's Board of Directors decided to implement the MAR in stages. In the first stage, the MAR system would be developed and implemented at Central Hospital. After the problems were worked out, the MAR would be implemented throughout other facilities of Integrated Health. Responsibility for the MAR project was delegated to the MIS department at Central, and today it seemed to rest squarely on Kate's shoulders.

THE RATIONALE

Regulatory and competitive changes in the health care industry resulted in a more complex and dynamic environment. According to the National Coalition on Healthcare, the United States spent $1.9 trillion on health care per year of which $450 billion were administrative costs. At Integrated Health, administrative costs rose at an annual rate of six percent, and the board's strategy to reduce administrative costs began with the MAR.

As the trend in insurance coverage shifted from indemnity plans to managed care and capitation, insurers required that health care providers document services in a timely, accurate manner. Paper charts or records were the traditional method of reporting information. The need to deliver more information in shorter time periods resulted in paper reporting not being an efficient or effective method of delivering this data to insurers. For use within the health care system, paper charts must be physically transferred from one department to another as patients move from department to department. In the industry, specialists reported that patients referred to them ended up without a paper file 30 percent of the time. Moreover, it was reported that lost paperwork or illegible handwriting resulted in 10 to 15 percent of patients' medical tests being repeated unnecessarily.

Integrated's management learned that private insurance companies, Medicare, and Medicaid would soon require electronic transfer of patient information on treatment, medication, surgical procedure reports, and billing information. This information would be collected in a centralized database and then uploaded to the computers of the insurers. Computerized records were retrievable by those who need access to patient information in order to provide services or to process requests for payment. Electronic transfer of all information was expected to become a requirement in the future. One aspect of patient information that lends itself to computerization from both clinical and data collection perspectives was medication charting.

Like most other health care systems, Integrated was trying to adjust and position itself for the changes and challenges that managed health care would bring. Integrated's management viewed the move to a MAR as one of many business process changes necessary if the system was going to be competitive in the long term. For example, if the MAR project was successful, most billing functions could be completed on the day of service. Therefore, the hospital could receive payment more quickly with the utilization of fewer resources. Ultimately, the MAR could eliminate the need for most of the manual billing and allow for staff reductions.

For years, Integrated Health invested little money in information technology. Instead of utilizing the power of technology, the company had relied on old-fashioned paper records held in rows of filing cabinets. Central's computer system was still primarily a mainframe system that some staff considered antiquated, and hardware limitations resulted in cumbersome applications for several clinical departments.

THE PROJECT TEAM

Art Baxter, the Chief Information Officer at Central Hospital, decided to computerize the MAR over a one-year period. Art heard rumors of a management shakeup at Central Hospital but thought MIS would not be affected. Completing the MAR in such a short period of time would definitely improve Art's image. Art, a former plumbing supply salesperson, lacked a technical background in MIS and was known to boast about not knowing how to turn on a computer. Art's cousin was a member of the Central's Board of Directors.

Art assigned Kate Cohen as project leader of the MAR. Kate was known as one of the better programmer/analysts at Central, and she was given day-to-day operational responsibility for the MAR project. Art told Kate that except for monthly executive updates and critical decisions he would not be involved with the project.

Kate assembled a project management team consisting of Guy Smith, Pharmacy Operations Coordinator and MIS Liaison; Lauren Hill, Nurse Trainer and MIS Liaison; and Ben Hoffman from Internal Audit. Kate developed good working relationships with Guy and Lauren who represented two departments critical to the success of this project. Guy Smith had experience developing and implementing the computerized order entry system used in Pharmacy Services for four years. Guy personally developed most of the user applications for the order entry system. Kate felt he would be an asset in developing MAR user applications. Lauren Hill was often referred to as Super Trainer because of her ability to train even the most difficult employee. Ben Hoffman was an expert on Accounting Information Systems who had been at Central Hospital for a short time, and the computerized MAR was his first major project. Additional representatives from MIS, Nursing Services, Pharmacy, Internal Audit, Accounting, and other areas of the hospital served on the team on an as needed basis.

For Kate Cohen and other MIS employees, the MAR project was a chance to create a good impression. Therefore, the attitude of the MIS staff was generally positive. If the MAR was successfully developed and implemented at Central, Kate might be asked to lead the MAR project across the Integrated Health system. The MIS staff viewed the MAR project as an opportunity to demonstrate their importance to Integrated Health. With the pressure on health care providers to hold down costs, the MIS staff thought that the project was a chance to prove their value to the organization and protect them from a layoff.

MAR PROJECT DEVELOPMENT

When the MAR implementation target date was twelve months away, the team assembled and developed an action plan. Software preparation began in earnest; and after about three months, Kate and Guy finished the coding work on roughly one third of the user screens. In the fourth month, several demonstrations of the software and available reports were offered to physicians. However, physician turnout to the demonstrations was poor. At first, Kate thought low turnout indicated a low level of interest. Later Kate concluded that the low turnout was not necessarily a bad sign for the team given physicians' busy schedules.

The team members worked well with each other. In the early stages of the project, the team met at least twice every month to review progress and make new assignments. Communication flowed freely between the team and two of the ultimate end users – the pharmacy and the billing department. However, not much information seemed to pass between the team and other end users of the MAR such as nursing.

Jane Ritchie, the Director of Nursing, did not support the change to the MAR system. Jane was more comfortable with doing work the traditional way, and she rarely accepted change without noticeable resistance. Jane felt that the nurses had only limited information about the MAR project and that the benefits of the MAR were unclear. Furthermore, an undercurrent of antagonism surfaced between Jane and Art because of the nurses' frustration over the MAR project.

The nursing staff at Central was considered critical to the success of the MAR project. Nurses would be responsible for entering over 50 percent of the data, and the MAR project would create a significant addition to their heavy workload. Occasionally during development the nurses were asked for their input. Approximately half of their suggestions and requests could not be accommodated due to coding issues or to limits on computer capability. Generally, the nurses felt their suggestions and recommendations were rejected without full explanation. Members of the nursing staff and MIS met several times to assess whether or not implementing the computerized MAR in twelve months was achievable.

The pharmacists saw the MAR as the logical extension of the computerized order entry function that they had been using for four years. In the entry function, the pharmacist reads the physician's order for a specific patient and enters it into the computer. Pharmacists anticipated some initial problems but knew from experience that most issues could be solved. Pharmacists equated the MAR development and implementation process to growing pains, while nurses saw it as unnecessary. To the pharmacists, the computerized MAR was a tool to reduce work, errors, and time spent entering orders. This time could be better spent on more rewarding clinical and professional activities. In general, pharmacists saw computerization as the only option, and most were used to change. The profession had evolved from compounding and dispensing drugs to patient education, drug information services, and pharmacokinetics consultations. New drugs emerged weekly, especially biotech and genetically engineered drugs, so change was expected.

Guy Smith who developed the pharmacy subsystem was asked about the feasibility of the implementation date. After reviewing the screens and hearing the concerns of the nurses, Guy thought that the target date was too ambitious. Lauren Hill, the nurse trainer, thought that the nurses would not be ready to use the system in twelve months. She just did not see how she could train Central's 400 member nursing staff in the time available. Kate Cohen thought the screen modifications and programming changes requested by the nurses could take between nine and twelve months. However, Art Baxter rejected the advice of Guy, Lauren, and Kate and refused to change the implementation date.

TESTING

Kate and Guy tested the MAR at every phase of development. During testing only a few users were on the system at one time. As many scenarios as possible were tried during each test. However, because of the large number of possible combinations, everything did not come up for

review. Corrections were made as soon as glitches were identified. As a follow-up, Ben Hoffman, the internal auditor, conducted a test of the full system a month before the scheduled implementation date.

TRAINING

User training for nurses began about three months before the target implementation date for the MAR. Lauren Hill, the nurse trainer, was responsible for teaching 400 nurses everything they needed to know about on-line MAR charting. She thought the training had gone well and had patterned the nurses' training after the training for the pharmacy department's computerized entry function. The training plan included a pre-test, an on-line demonstration, and a post-test. In order to accommodate all the nurses in such a short time frame, the class sizes were large. The class size for the pharmacists had been small since there were only 20 pharmacists.

During the training, the nurses complained that the screens were too cluttered, and they became more and more frustrated with the user-unfriendly screens. Another frequent complaint expressed by nurses was that the screens were difficult to read. There was nothing on the screens that stood out to direct the eye to a specific function. In order to complete a transaction, multiple screens were required, and frequently the system response time to move from one screen to another seemed too slow. There were times when the information from the nursing subsystem did not synchronize with the pharmacy subsystem. Another frequently voiced concern was the lack of available computer terminals on which to enter the data and the distances from the patient's room.

REORGANIZATION

About four months after Kate and her team began work on the MAR project; reorganization at Central Hospital was announced (See Exhibit A and B). Greg Korensky, Vice President of Operations, was moved into a newly created position of Executive Vice President. Greg would have responsibility for coordinating operations across the Integrated Health system rather than just at Central Hospital. In another important change, Food and Nutrition and Pharmacy Services would become part of the Nursing Division. The jobs of the Chief Operating Officer, the Director of Nursing, and the Hospital Operations Administrator were eliminated as part of the restructuring. The positions held by the Director of Nursing and the Hospital Operations Administrator were combined into a single position of Vice President of Patient Care Services.

After a six-month search, Sharon Green joined Central Hospital as the Vice President of Patient Care Services. She quickly became an enthusiastic supporter of the MAR project. However, Sharon was out-of-town on the day the MAR was implemented due to being on vacation.

IMPLEMENTATION

On Monday, the MAR was implemented and immediately failed. Floor nurses and staff pharmacists complained that the MAR was too complicated, then physicians expressed concern about patient safety, and next the computer system crashed. Therefore, the MAR project was suspended, and Kate's team assembled late yesterday afternoon to review the failure. On Tuesday, at 2:00 p.m., Kate will present to the hospital's management. Kate wondered what she was going to say.

Exhibit A: Partial Organization Chart for Central Hospital Before the Reorganization

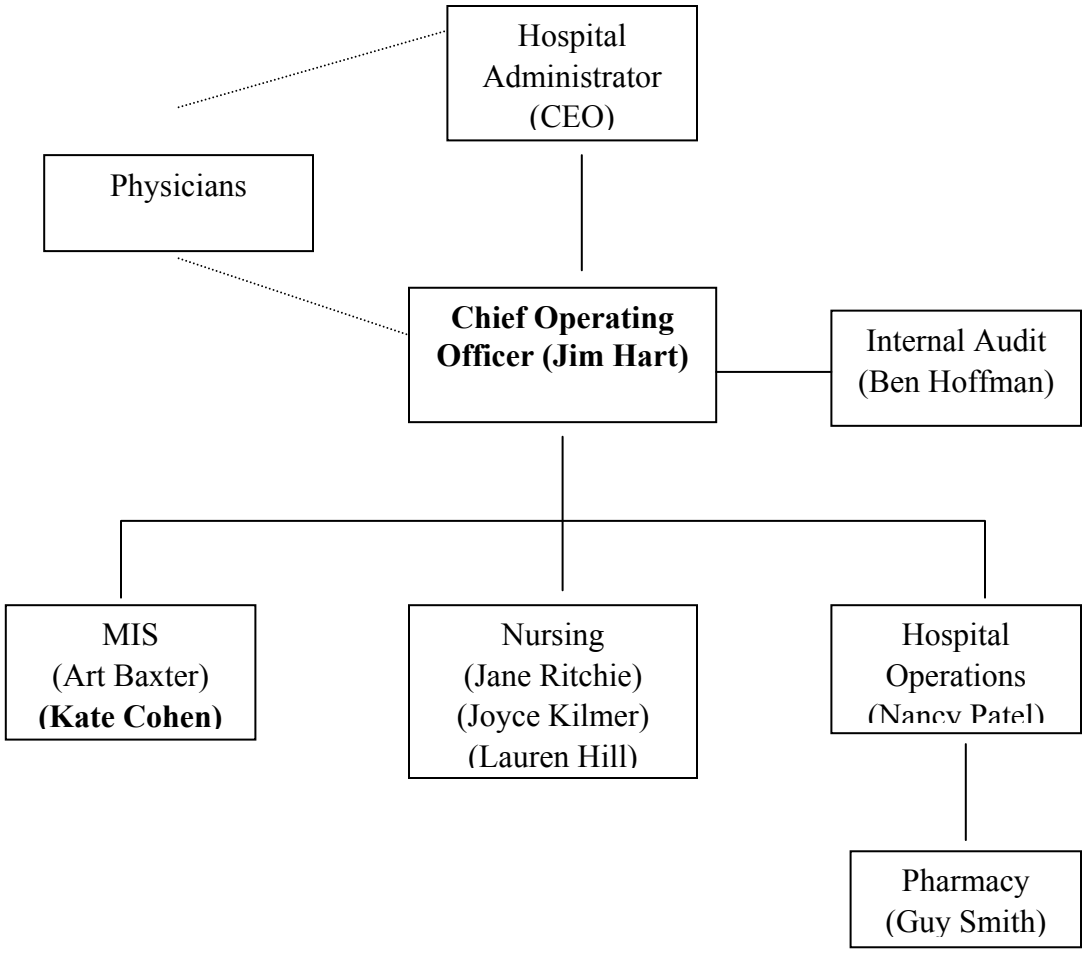
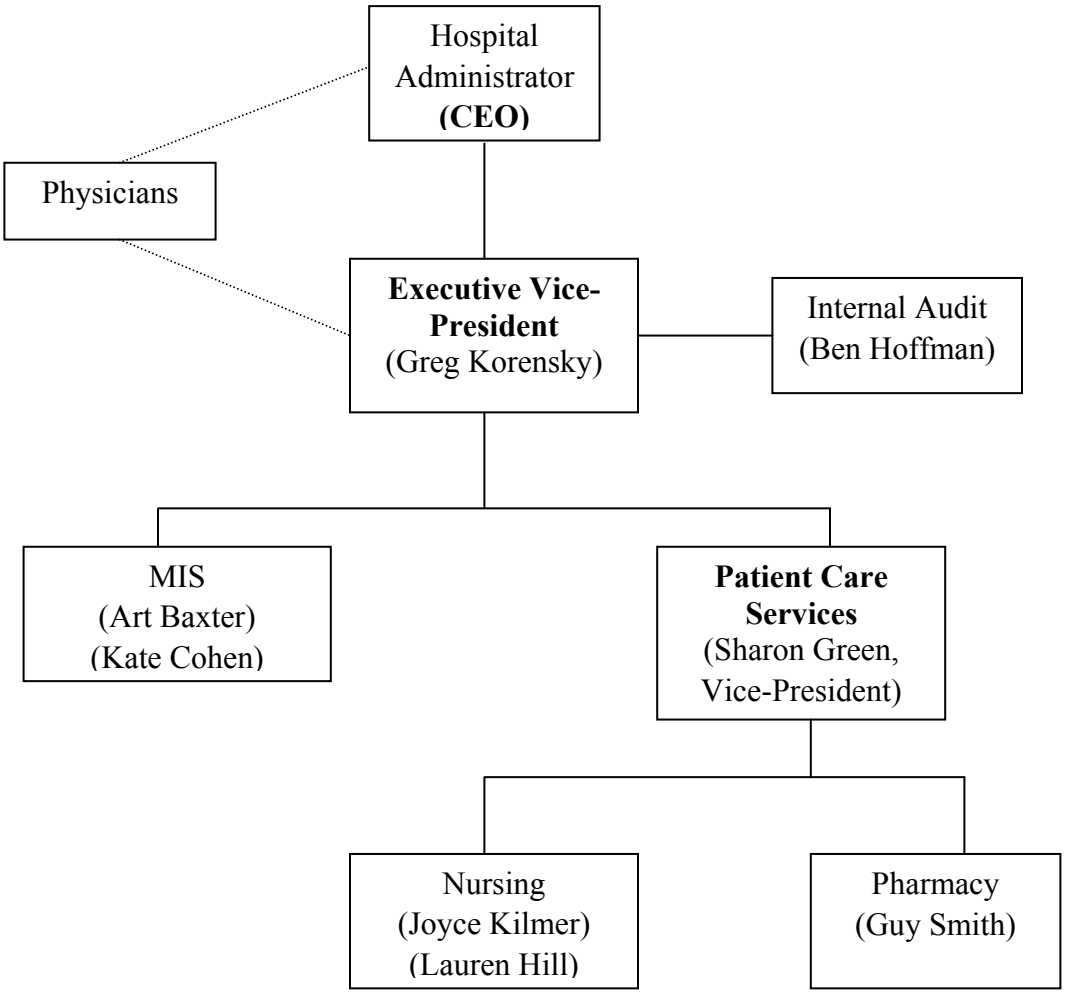


Exhibit B: Partial Organization Chart for Central Hospital After the Reorganization



MODINE MANUFACTURING: PRICING STRATEGIES FOR A GLOBAL OEM MARKET

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CASE DESCRIPTION

The primary subject matter of this case is pricing strategy within the context of an international global company that manufactures and sells thermal management products and systems to global OEM's in the passenger, commercial and off-highway vehicle markets. As a seller of component parts to large multi-national manufacturers around the world, Modine faces competitive challenges and buyer demands that are formidable. The company needs to transition from its dependence on cost-plus pricing policies to strategies that will effectively communicate their products' superior value. This case has a difficulty level appropriate for undergraduate senior level and graduate courses. This case is designed to be taught in one class hour and is expected to require two hours of outside preparation by students. This study would be most appropriate for use within the context of a Marketing Management or Marketing Strategy course.

CASE SYNOPSIS

No one can ever truly be considered an expert in pricing … at least that's the opinion offered by a consultant who was hired to help Tinya Meeker solve a particularly challenging pricing dilemma. It is clear that Modine Manufacturing needs to migrate from its dependence on cost-plus pricing policies to strategies that will effectively communicate their products' superior value. However, Tinya is relatively new to the position of divisional sales manager and this is without question the most important decision she's ever been asked to make. She's narrowed her choices down to product-cost unbundling and value-based pricing as the two primary options. Modine employs more than 7,000 people worldwide and the consequences of her final decision could be far-reaching.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

CASE

Tinya Meeker was nervous and frustrated as she prepared her first pricing recommendations for Modine's senior management. In many respects, the company had been

doing things the same way for almost a century and she wasn't sure that her two years experience as a divisional sales manager were adequate to the task. She wasn't entirely on her own, however. Tinya had been pouring over page after page of a consultant's report on product line pricing for nearly two weeks. The consultant's parting words to her had been not to worry. "After all, no one can really be a pricing expert." With only two days remaining before she would need to submit her proposal for a revised pricing and sales strategy, those words did not bring much reassurance.

COMPANY BACKGROUND

Modine Manufacturing Company (www.modine.com) manufactures and sells heat transfer or *thermal management* products and systems to global OEM's in the passenger, commercial and off-highway vehicle markets. Their core product lines include radiators, engine and transmission oil coolers, condensers and evaporators. Recently, Modine has begun to aggressively market newly engineered exhaust recirculation coolers which have been developed to meet federal clean air standards for reduced exhaust emissions through exhaust gas cooling. Modine's business model focuses on product applications that require specific cooling solutions and they do not typically mass produce standardized products for after-market sales.

Since its founding in 1916, Modine has always considered itself a leader and innovator in developing advanced heat transfer products. The company holds over 2000 patents for pioneering production and engineering applications in all phases of the company's operations. Modine is best known for products that are used in light, medium and heavy-duty vehicles. However, their products are also widely utilized in heating, ventilation and air conditioning equipment, industrial fabricating equipment, refrigeration systems, fuel cells and electronics. Revenues from all continuing operations exceed $1.5 billion annually from sales to diversified global markets. The company employs approximately 7,800 people at 33 facilities worldwide.

Modine has traditionally used a cost-plus pricing model for submitting bids and preparing price quotes for its customers worldwide. This is enforced through a pricing policy which requires multiple levels of managerial review and approval based on a *margin-over-full-cost* estimation model. Every heat transfer application is designed from a standard product design concept, but adapted for the engine or transmission heat transfer requirements and application-specific mounting scenario. Modine considers itself a provider of custom design solutions rather than a provider of products. Many new product opportunities have resulted from a heat transfer problem that customers have brought to Modine to solve. The prevailing corporate culture at Modine emphasizes innovation in design and the highest levels of attainable quality in its manufacturing processes. One result of this culture is that engineers and designers tend to over-design products. Consequently, the company has not taken full advantage of opportunities to standardize its product designs as a means of minimizing development and production costs.

PARALLEL FLOW OIL COOLERS

One of Modine's core products for light, medium and heavy-duty vehicles is the Parallel Flow® (PF) oil cooler. This application is designed to cool transmission oil to prevent excess heat buildup in the transmission case which leads to early transmission failure. The oil cooler is an innovation in aluminum cooler design that was introduced in the early 1990's for air conditioning system condensers and applied in the late 1990's to other automotive uses - primarily cooling transmission oil. However, the transmission oil cooler market has been a confusing opportunity to Modine. Though armed with superior product designs, unit sales in this division have been disappointing.

The original factory-installed oil cooling equipment in most passenger and light-commercial vehicles is simply a stack of flat, long, oval tubes located inside the plastic tank-top of the radiator. Hot transmission fluid is pumped into one end of the oil cooler and fills all layers of the oil cooler. Within the radiator, the temperature differential of the radiator coolant absorbs the higher heat of the transmission fluid through the metal walls of the oil cooler before it exits and returns to the transmission. These simple units provide some cooling, but since the radiator temperature usually hovers around 210° F, the cooling effect on the transmission oil is necessarily limited by both the rate of oil flow and the relatively small temperature differential between the incoming oil from the transmission and the temperature of the radiator coolant in the radiator tank. Because the oil is cooled by the liquid in the radiator in this type of system, it is termed a *liquid-to-oil* cooling application.

In contrast to the original factory-installed equipment, Modine's Parallel Flow (PF) oil cooler is an *air-to-oil* cooling application. Unlike the "in-tank" liquid-to-oil cooler, the PF oil cooler is mounted in front of the radiator and instead of radiator coolant, uses air flow to cool the transmission oil, thus: "air-to-oil" cooling. The use of air has the benefit of a wider temperature differential between the air and the oil being cooled, thereby increasing the amount of heat that can be pulled from the oil versus a *liquid-to-oil* cooler. But Modine is not the only company to have an air-to-oil cooler design for cooling transmissions. The unique design dimension of Modine's PF oil cooler has perforated metal strips inside the tube called *turbulators* which "stir" the oil inside of the tube, enabling faster cooling, just like blowing on a spoon of hot soup cools the soup faster than letting it sit and steam. This stirring effect in the many rows of tubes enables significantly higher cooling capacity relative to its overall size (measured in square inches of surface area). In simplest terms, it is the most efficient design on the market.

Modine's Parallel Flow *air-to-oil* cooling system is differentiated from its competitors by both design and performance. The PF cooler is composed of four main components: the header pipe, welded tubes, tube turbulation inserts, and fins. The coolers produced by competitors in the industry use standardized header/tube stamping pairs which are stacked one on top of each other to create both the header and the "tube" with an external fin layered between the tubes resembling the corrugation of cardboard. Consequently, one differential advantage of the PF is

that the fin design can be modified to increase the air-to-fin surface to increase or decrease the amount of surface area contact of external air to metal which is where heat is dissipated. Another point of differentiation is that the Modine PF design uses a metal turbulator insert inside the tube so that the oil can be "turbulated" or "stirred" as it flows through the tube, insuring that cool oil is circulated away from the outer surface of the tube to maximize heat transfer to the fins. Through comparative product performance testing, Modine has determined that the 19mm PF oil cooler typically outperforms competitors' products by 10% despite the fact that Modine's tube wall is dimensionally thinner, requiring less material content. The addition of the tube inserts (which produce the oil turbulation) offsets the reduced material content in terms of reinforcing the interior support for the tube wall. Consequently, competitors' products are less efficient in terms of both performance and the utilization of component raw materials.

Though recognized within the industry as possessing superior engineering and performance, market penetration for Modine's Parallel Flow oil cooler has been somewhat limited to older BMW applications and packaged in some cooling module packages for Dodge Trucks and Jeep Sport Utility models. Modine management has generally attributed the limited success of this product to a lack of product knowledge about the PF oil cooler and its applications. Recently, however, concerns have surfaced that prospective purchasers may also perceive the product as over-priced relative to its closest competitors.

OIL COOLER MARKET

The transmission oil cooler market is stratified by the level of cooling required and is therefore determined by the type of vehicle (sport utility vehicle, truck, minivan, sedan, compact, etc), engine size (1.6 liter to 5 liter), and specifications of the transmission. Traditional passenger cars require nothing more than the standard in-tank oil cooler as described earlier. This market comprises 60 percent of the passenger vehicles sold in the US. Once the vehicle engine size moves above 3.0L, the level of torque from the engine to the transmission necessitates higher levels of cooling and for these applications air-to-oil cooling is required. In the US, this market is quite substantial, including most minivans, sport utility vehicles and pickup trucks. Table 1 shows 2008 US vehicle sales by segment for January as well as a full-year market projection. Since virtually all segments of the truck market (import and export) require air-to-oil cooling, more than 50% of the 15.2 million vehicles sold in 2008 require air-to-oil cooling. Of that total, 43.1% of sales are for use in domestic trucks and 8.1% for import trucks.

Vehicle Sales by Segment for January 2007 and 2008			
	January 2008	***January 2007***	***Change***
Total Industry	1,040,899	1,088,535	-4.4%
Domestic Car	365,156	369,349	-1.1%
Domestic Truck	443,920	471,472	-5.8%
Import Car	144,574	148,713	-2.8%
Import Truck	87,249	99,001	-11.9%

Seasonally Adjusted Annual Rate (Millions) *(Percentage by segment)*		
	January 2008	***January 2007***
Total Industry	15.26 (100.0%)	16.56 (100.0%)
Domestic Car	5.32 (34.9%)	5.58 (33.7%)
Domestic Truck	6.58 (43.1%)	7.38 (44.6%)
Import Car	2.11 (13.8%)	2.25 (13.6%)
Import Truck	1.24 (8.1%)	1.35 (8.2%)

PARALLEL FLOW PRODUCT OFFERING DILEMMA

Modine sales for PF oil coolers have lagged behind expectations for several years. The company generally attributes disappointing performance to a lack of product knowledge about the PF oil cooler and its applications. The lack of understanding stems in part from confusion about how products are sized in this market. Customers view oil coolers as a standard commodity product, much like oil filters, which are essentially identical and can be supplied by anyone. Oil coolers, however, have to not only provide the adequate cooling capacity for a specific vehicle application, but it has to do it within a certain space. Competitor's oil coolers grow dimensionally larger as cooling requirements increase. With Modine's PF product, the superior cooling provided by the internal turbulators and multiple external fin options can provide a range of cooling in the same physical space and always across smaller surface areas than competitors' products. However, this often works to Modine's disadvantage since most customers evaluate price relative to the surface area of the oil cooler. Since Modine's PF product is always smaller than the standard competitor product, the customer has been unwilling to pay for the technology that allows their cooler to be smaller.

Modine's largest competitors produce a 21mm design and a 32mm design (mm dimension refers to oil cooler thickness). Modine produces only one basic design - 19mm. When requested to provide quotations for higher level cooling applications, Modine has proposed a 28mm cooler, but has priced it very high relative to available alternatives because of the time and capital required to tool up for production and the low sales volume it has

historically estimated for this segment. In recent discussions within the Modine's sales team, however, it was noted that this perception of low sales potential was based on a market analysis performed at the beginning of the PF oil cooler's development over 15 years ago. Since that time, the rapid growth in sales of larger and larger SUV's and trucks within the US market suggests that this assumption should be reconsidered. In 2004, Modine conducted a market study on the potential PF oil cooler market and determined that the potential unit sales for the larger sized oil cooler (28mm) was approximately equal to the size of the smaller size (19mm) oil cooler market.

Based on the new market study information, Modine began performance testing prototype 28mm products against the competitors' 32mm design. The advantage of the inner tube turbulators in the 28mm was much greater an advantage at this size (vs. the 32mm competition) than at the 19mm size (vs. the 21mm competition). After evaluation of the cooling capacity of a full range of core sizes of the 28mm design in subsequent testing, the Modine design engineers determined that the cooling capacity of the 28mm size far exceeded the requirements for all segments of the market with the sole exception of the 500,000 annual unit sales in the heavy duty trucks / sports utility vehicles segment (see Table 2).

In light of the testing of the 28mm design, and its extreme over-performance in the medium duty application heat loads, Modine Engineers decided to re-look at the ability of their standard 19mm design, with enhanced fin design to increase heat transfer performance, to address the medium duty heat loads to save the cost of tooling up and investing in capacity for the 28mm design. After several attempts they were able to achieve adequate heat transfer to meet the heat transfer requirements for the medium-duty market segment. This was a dramatic breakthrough, essentially doubling the market for their 19mm product: (see Table 2) it now can cover both the light duty and medium duty markets, increasing the market size for this product from 3.3m to 6.5m.

The new test results and revised market studies undertaken by Modine yielded new insights on the composition of the potential market for the Parallel Flow design. Table 2 shows an oil cooler application matrix for the PF Fin and Tube (F&T) products versus conventional Round Tube Plate Fin (RTPF) products within the truck market. RTPF products are typically used for applications that cannot use in-tank oil coolers. These consist of a copper tube bent into a "U" shape with small square aluminum plates (called fins) that slide on the outside of the tube. The tube is then expanded to create a non-brazed seal between the fin and the tube. RTPF products sometimes have a single strand of copper wire in the tube for turbulation. The Round-Tube-Plate-Fin design is the lowest oil cooling technology and is an appropriate application only for the lightest oil cooling requirements.

Table 2: Estimated 2008 Truck Market Segments

		Product		
			19 mm	28 mm
Heat Transfer Category	Market Size	RTPF	PF	PF
Heavy Duty Truck/SUV	500,000			X
Medium Duty Truck/SUV	3,200,000		X	
Light Duty Truck/SUV	3,300,000		X	
Low Oil Cooling requirements	1,000,000	X		
Total Truck	8,000,000			

The market for the lowest level of oil cooling requirements is estimated at 1 million vehicles including small engine mini-vans and small SUV's. The highest level of heat transfer requirements are for heavy duty (HD) applications including the commercial versions of passenger vehicle platforms of 180,000 vehicles. This sub-class of vehicles accounts for the incremental difference between the total truck sales estimates of 7.82 million for 2008 in Table 1 and the 8 million truck units indicated in Table 2.

In light of the results from recent tests, it was apparent that the relatively small HD Truck/SUV segment represented a poor fit relative to Modine's performance strengths. In addition to the relatively low sales potential, the fabrication of coolers to meet the needs of the segment would require incremental tooling for a 28 mm production run. From a competitive perspective, the oil cooling requirements of the segment could be more cost effectively met by existing RTPF products. Consequently, Tinya Meeker determined that the focus of the company's new marketing efforts should be on the Medium Duty and Light Duty applications. These two segments totaled 6.5 million units for 2008 as shown in Table 2.

Based on this new understanding of the potential market and the application of 19mm product design, Modine needed to recognize a new marketing challenge. In order to penetrate the market and capture the sales potential of this product, they needed to realize that it was imperative to understand and communicate the true value of the product to prospective buyers. The consultant's recommendations included two alternative pricing strategies to address this issue: product-cost unbundling and value-based pricing. Before either of these options could be considered, however, Tinya knew that she needed to take the buyers' efforts at price management into account.

CUSTOMER PRICE MANAGEMENT

Since the late 1900's, Modine's customers have focused a great deal of attention on reducing the cost of add-on components. Both domestic and foreign auto makers have adopted the practice of requiring suppliers to provide specific information on their actual product costs. Most of the Modine's largest purchasers have aggregated the data across OEM competitors to create linear pricing models based on a cost-per-surface-area formula to measure the efficiency of competing oil cooling applications. Essentially, customers relate the surface area to cost: the larger the size the higher the cost. Consequently, the smaller the surface area, the lower the price the customer has been willing to pay for the cooler. The customer plots all vehicle model oil coolers on a graph with *price* and *surface area* in square inches as the X and Y axes respectively. These simple models are in turn used as a negotiating tool to pressure suppliers to lower their prices based on surface area regardless of the cooling requirement of the vehicle application. Cooling capacity is not even considered – it is assumed to be linearly related to the square inch of surface area. Table 3 shows the linear cost and price information for competing transmission oil coolers in contrast to the same data for the Modine PF oil coolers.

These linear pricing models for transmission oil coolers pose a significant disadvantage to Modine since they focus exclusively on average prices per surface area. Modine's PF Oil Coolers have less surface area because they are more efficient in cooling. This problem is aggravated by Modine's own dependence on using cost-plus pricing policies to establish sales prices which do not explicitly recognize the actual value-in-use that PF coolers provide relative to competitors' designs. Consequently, Modine's sales team has often yielded to its customers' demands for lower pricing when confronted with the linear price comparisons. In order to eliminate this competitive disadvantage and provide a more accurate reflection of the product's superior value, Tinya needed to evaluate the two pricing strategies that the consultant had recommended: product-cost unbundling and value-based pricing.

PRODUCT-COST UNBUNDLING

The pricing strategy chosen by a seller can serve many purposes. In some contexts, all of the materials and services required to deliver a benefit are packaged together under one price for the complete bundle. The intention is to simplify the buyer's decision making process by making it easy to relate benefits to cost. This is often the case during the early stages of the product life cycle when the primary goal is build brand preference and share for a relatively unfamiliar product. In latter stages of the life cycle, bundling is sometimes used by the market leaders as a competitive barrier since new entrants won't be able to effectively challenge for sales on a piecemeal basis … by specializing in the marketing of one or two component parts or services.

Table 3: Price and Cost by Market

Customer Linear Pricing Model

Segment	(a) Oil Cooler Surface Area (sq inches)	(b) Customer Linear Price (per sq in.)	(a x b) Customer Expected Price Range
Heavy Duty Truck/SUV (thick core)	250 - 400	0.24	60 - 96
Medium Duty Truck/SUV	300 - 400	0.15	45 - 60
Light Duty Truck/SUV	100 - 299	0.15	15 - 44.85
Low OC requirements	<100	0.12	<12

Linear Pricing Model assumes no Fixed Cost - all costs are assumed variable

Modine Product Cost Model

Segment	Oil Cooler Surface Area (sq inches)	Variable Mfg Cost (per sq in.)	Incremental Tooling Cost
Heavy Duty Truck/SUV (thick core)	250 - 400	NA	NA
Medium Duty Truck/SUV	300 - 400	0.13	500,000
Light Duty Truck/SUV	100 - 299	0.14	500,000
Low OC requirements	<100	NA	NA

In mature markets, product bundling is more difficult to sustain. As competition increases and buyers grow in their understanding of the market, sellers who have established their competitive advantage on the basis of lowest prices are often challenged as competitors begin to educate buyers about the differences in product quality across competing bundles. One consequence of this process is that price-quality brand positioning often emerges as the primary force driving sales. To compete effectively, some sellers will opt to unbundle their products and give customers the option to selectively purchase component parts. Unbundling can also be used in marketing communications to illustrate the value of the whole package to the buyer. In other contexts, however, sellers will keep the product bundle substantially intact, but unbundle the underlying costs as a means of educating the buyer. The goal of *cost transparency* in this context is to stress a value-for-money positioning strategy. This strategy can be very effective when the buyer can negotiate with the seller to customize the product bundle and corresponding costs to suit his specific needs more effectively than a standardized product.

Modine has traditionally designed each PF Oil Cooler specifically in response to each customer quotation. This practice has ignored the substantial economies and cost-savings possible through the standardization of parts and assembly. Parts and components that could be

potentially standardized in production include supply tube lengths, bracket designs, quick-release connectors and assembly process fixturing. With the failure to standardize production, however, Modine has also failed to recognize the opportunity to unbundle the component parts of the oil cooler in order to increase pricing flexibility. Lost in the process of preparing custom quotes is the ability to recover costs or increase prices based on the requirements for these individual items. Typical oil cooler applications require brackets to mount the oil cooler to the radiator as well as some type of flexible hose and connector to attach the supply tubes coming from and going to the transmission to the oil cooler. The brackets and hoses can be of any shape, size and length, creating a nightmare for operational efficiency. If priced with a standard bracket and tube fitting application, any change the customer required could be price-segmented and charged for.

Throughout its history, a major part of Modine's success and basis for brand differentiation has been superior product engineering. Originally, PF Oil coolers were designed with the supply tubes brazed into the side of the header pipe. However, manufacturing processing efficiency (labor and processing time) improves dramatically when the transmission oil supply tubes are attached at the bottom of the round header tube rather than plugging the end of the header tube and drilling a side hole into the header in which to mount the supply tube. If the supply tubes are attached into the side wall of the header tube, two additional processing operations have to occur: holes have to be drilled into the side and end caps have to be added to close of the bottom end of the header tube. However, this also creates additional opportunities for leaks both at the supply tube to header joint and at the end cap. Using a supply tube attached to the bottom of the header tube eliminates the additional holes in the header tube and provides a more robust joint than the end cap to seal off the bottom of the header tube. Attaching the supply tubes to the bottom rather than the top of the header also increase the efficiency of the cooler. The higher pressure of the oil coming into the cooler enable the cooler to fill all the tubes, while gravity assists in drawing the oil out of the cooler on the opposite side as it returns back to the transmission – another cooling capacity advantage.

By unbundling the product, Modine can explicitly recognize the higher costs and greater value associated with providing a better product. In turn, disaggregating the product and costs into its component parts will provide the sales force with an opportunity to communicate the rationale for these additional costs to the customer. This should open the door for incremental price adjustments and allow the customer a greater role in the process of customized product design. Alternatively, buyers would also have the option to create a lower cost design if price is their primary buying criterion. In either event, Modine would be better prepared to match competitors' prices on an *apples-to-apples* basis. This strategy would enable unbiased and direct cost comparisons and allow Modine to remain competitive in situations where the "cost-plus" quoted prices for complicated designs would have previously excluded Modine's bid from making it past the initial round of proposal evaluations. Table 4 shows costs of the unbundled hardware options. By taking these design options out of the cost of the base PF oil cooler,

Modine is able to make the customer decide whether to add cost to their product for these options rather than having them bundled in the linear price of the cooler surface area.

Table 4: Unbundled Hardware Options
Price and Cost by Market

Attachments	***Standard***	***Custom***
Brackets	0.50	Quote Separately
Connecting Tubes	.10/inch	Quote Separately
Fittings	NA	Customer Provides

VALUE-BASED PRICING

Companies whose differentiated brands enjoy significant advantages over competing products often turn to economic value analysis and value pricing strategies as a means of capturing greater profitability and market share. Value-oriented pricing recognizes that buyers often make purchase decisions based on perceived value rather than simply on the basis of lowest price. Value represents an assessment by the purchaser of the product's perceived quality or benefits relative to its cost. The goal of value-based pricing is to align the price of the product with the total value it delivers to the buyer. Although value-based pricing is a more difficult strategy to implement, it typically yields greater profits in the aggregate than simpler cost-plus pricing methods.

Among the most widely adopted variants of value-based pricing strategies is Economic Value Estimation or EVE. The fundamental tenets of EVE are straightforward:
"A product's *total economic value* is the price of the customer's best alternative (*the reference value*) plus the economic value of whatever differentiates the offering from the alternative (*the differentiation value*). Differentiation value may have both positive and negative elements" (Nagle and Hogan, 2006).

After reviewing the performance-related advantages of Modine's Parallel Flow cooler, Tinya determined that there were three distinct value bases differentiating the Modine PF design over its competitors:

- Core Size: higher heat transfer due to fin design and inner-tube turbulation reduces the core surface size by 10 % for light duty and 13% for heavy duty applications based on laboratory performance tests.

- Radiator Performance: Due to the reduced size of the oil cooler, the improved air flow to the radiator improves the cooling capacity of the radiator, allowing for a smaller radiator. This impact is estimated at 10% for the larger applications and about 7% for the smaller applications.
- Weight Reduction: Due to the reduced size described above and the resulting reduction in size of the front end of the vehicle for the engine cooling module, the overall weight reduction improves fuel efficiency which adds to the value of the vehicle to the customer.

Table 5 shows an Economic Value Estimation for the PF oil cooler for Light Duty (LD) and Medium Duty (MD) applications based on the value advantages listed above. The initial reference price for this analysis is provided by the OEM customers Linear Price Model (Table 3). Based on the initial EVE, revised pricing for the Light Duty and Medium Duty applications are shown as is the calculation of variable cost for each size range.

Table 5: Customer Value Pricing Analysis

Economic Value Estimate

	Light Duty	***Medium Duty***
Reference Price	0.150	0.150
Core Size	0.015	0.020
Radiator performance	0.010	0.015
Weight reduction benefit	0.010	0.015
Value Estimate Price/ Sq Inch	0.185	0.200

Revised Price Model (using EVE price per sq. inch)

Segment	**(a) Oil Cooler Surface Area (sq inches)**	**(b) Customer Linear Price (per sq in.)**	**(a x b) Customer Expected Price Range**	**Modine Variable Cost**
HD Truck/SUV (thick core)	250 - 400	0.240	60 - 96	
Medium Duty Truck/SUV	300 - 400	0.200	60 - 80	42
Light Duty Truck/SUV	100 - 299	0.185	18.5 - 55.32	25.94
Low OC requirements	<100	0.120	<12	

The projected impact of EVE is illustrated in Table 6. In this table, the average price and average variable cost for both categories is calculated and an average variable margin is used to calculate a breakeven point against the incremental fixed costs. Since Modine already is supplying the LD segment, additional volume requires no incremental fixed costs for

manufacturing, apart from the additional assembly fixtures for additional models. For the MD segment, however, Modine would require additional capacity for core tube production, fin production, header assembly production and brazing. The total cost to purchase equipment and normal assembly fixtures for this additional volume is $8.5 million. Table 6 shows the breakeven point for each market at average segment margins.

Table 7 shows the target market share for these segments and the projected incremental contribution. The MD market is not a market where Modine has competed in the past. However, due to the substantially larger value advantage in this segment, (Table 5), the sales potential in this segment is much greater than the LD market where Modine already has some penetration.

Table 6: Break Even Analysis

	(a) Ave Segment Price	(b) Ave Segment Var Cost	a- Ave Var Margin	(c) Fixed Costs	c/(a-b) Breakeven Volume
Medium Duty Truck/SUV	70.00	42.00	28.00	8,500,000	303,600
Light Duty Truck/SUV	36.91	25.94	10.98	500,000	45,600

Table 7: Market Share and Profit Evaluation

Target Market Penetration Plan

Heat Transfer Category	Market Size	Market Penetration	Volume Targets	Current Volumes	Incremental Volume
HD Truck/SUV	500,000	0%			
Medium Duty Truck/SUV	3,200,000	40%	1,280,000	200,000	1,080,000
Light Duty Truck/SUV	3,300,000	20%	660,000	400,000	260,000
Low OC requirements	1,000,000	0%			
Total Truck	8,000,000		1,940,000	600,000	1,340,000
Overall Market Share			24%		

Target Market Incremental Profitability

	(a) Incremental Volume	(b) Ave Segment Price	(a x b) Incremental Revenues	(c) Ave Var Margin	(a x c) Incremental Margin
Medium Duty Truck/SUV	1,080,000	70.00	$ 75,600,000	28.00	$ 21,739,200
Light Duty Truck/SUV	260,000	36.91	9,596,600	10.98	2,353,040
Total	1,340,000		$ 85,196,600		$ 24,092,240

Although the analysis process itself was daunting, Tinya felt as though she was getting closer to making a decision. As she closed the consultant's report on pricing, she tried to reconcile her first-hand knowledge of the issues with the opinions of the independent expert. It was hard to think that Modine could change the way a whole industry operates to suit its needs. Yet the ideas from the consultant made a great deal of sense … on paper. When she consulted the pages of notes that she had accumulated while trying to sort out the situation, she found mostly questions.

QUESTIONS

1. What factors are contributing to the pressure on Modine's pricing? How have these forces worked to Modine's disadvantage in the OEM market for oil coolers?

2. Is product-cost unbundling a good strategy for Modine to pursue with buyers?

3. Can Modine persuasively demonstrate that the Parallel Flow oil cooler design provides real economic value above and beyond the products offered by competitors? How can EVE be used in practice? To what forces are these EVE projections sensitive? How reliable are they?

4. Is it possible to pursue both the product-cost unbundling and Economic Value Estimation approach to revising the company's pricing strategy?

5. Are cost unbundling and EVE the only two options to effectively communicating the true value of the product to prospective buyers?

6. Is this strictly a pricing strategy problem … or is the challenge much larger than that?

7. How should Modine respond to the industry's practice of building linear pricing models as a means of exercising market price management?

8. Is it reasonable to expect that automakers will change the way they evaluate this one component of their final product? Can Modine make a persuasive argument that they need to change their attitudes toward the value of oil coolers? What value-added sales strategies can Modine use to counter buyers' resistance to change?

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BRIGHT-AID PHARMACY: HUMAN RESOURCE FORECASTING AND STAFF BUDGETING

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CASE DESCRIPTION

The context of this case is a retail pharmacy in a large national drug store chain and requires students to forecast a staffing plan and calculate a labor budget to fit an operating schedule. It is specifically written for students learning about the management of Human Resources (HR) in any field of study. This case offers a step-by-step exercise (embedded within the case) to guide the student through the basic calculations required for planning the staffing of any operation. It addresses two of the three challenges (staffing and budgeting) presented by the tight labor market in one healthcare profession. Suggestions for the instructor related to variations on the case address the third challenge (scheduling) defined as the actual assignment of staff to certain days of the week or hours of the day. This case has a difficulty level of three on a scale of one to five and is appropriate for upper division, undergraduate students or graduate students. It is designed to be delivered in portions of two classroom periods with completion of the embedded exercise as homework between the two sessions or online in one learning module. When combined with a reading assignment, the exercise is expected to require one to two hours of student preparation.

CASE SYNOPSIS

Bright-Aid Pharmacy faces a challenge typical to retail environments: staffing the long hours of operations (9AM – 9PM every day of the week). In order for the pharmacy to operate, the store manager must staff several jobs: a pharmacist must be on duty, pharmacy technicians assist the pharmacist, and a cashier is needed. An exercise is embedded in the case to guide the analysis of this HR forecasting and staffing. Essential informational elements are provided to set the stage for designing, budgeting and implementing a staffing plan for a retail pharmacy of a large national drug store chain. The exercise and case questions require selection of appropriate informational elements to address the case components; calculation of production, full time equivalents of three levels of staff (pharmacists, pharmacy technicians and cashiers) and labor costs; and use of methods for monitoring performance in preparation for business growth due to such things as technology advances or national health insurance policy changes.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

BRIGHT-AID PHARMACY

Since there seems to be a drug store, and sometimes more than one, on every street corner, the competition model seems to be thriving in the retail pharmacy industry. Consequently, there is a high demand for a short supply of pharmacists as well as pharmacy technicians. This is compounded by a high turnover among pharmacy technicians. These two circumstances call for careful use of the pool of available personnel through the human resource functions of staffing, scheduling and budgeting.

Determination of staffing requirements (the number of people needed to operate a component of a business) is a basic first step in HR management. The result includes the number of required positions, the number of people to fill those positions with associated wages and benefits, which lead to a budget and performance tracking.

Bright-Aid, a typical chain store pharmacy, is open daily from 9AM to 9PM, every day of the year except Christmas Day. In order for the pharmacy to operate, a pharmacist must be on duty. In addition, pharmacy technicians assist the pharmacist and a cashier runs the cash register. With the current shortage of pharmacists, staffing is often a challenge for store managers.

Bill Bradley is the store manager of one Bright-Aid location. The chain's regional vice president has requested that Bill design a staffing plan and related labor budget for the pharmacy component of the drug store for the next fiscal year. The vice president has also requested a plan on how to monitor performance and labor cost across time to measure progress as a basis for planning business growth. The vice president has requested the following analysis in the staffing plan:

- Select essential informational components to determine staffing needs by skill level.
- Perform calculations to determine the number of required staff by skill level to produce the designed work load.
- Create a labor budget for the pharmacy component of a retail drug store.
- Determine four measures to track production and cost performance over time.

Bill Bradley has the following information available for his analysis.

Days and Hours of Operation:

9AM – 9 PM every day of the week; closed on Christmas Day but open all other holidays.

Prescriptions Filled:

The volume of work produced per day is an average of 300 prescriptions/operational day (accounts for seasonal fluctuations and differences among days of the week).

Hourly Staff Wages*:*

Pharmacists $55/hour; pharmacy technicians (technicians) $11/hour; cashiers $8.50/hour.

Annual Paid Benefits:

Full Time Staff: 6 holidays, 6 sick days and 1 personal day per year for all levels of workers; 4 weeks of vacation for pharmacists, 2 weeks of vacation for technicians and 2 weeks of vacation for cashiers

Full Time Staff Benefit Cost:

20% of annual wage.

Part Time Staff Benefit Cost:

no paid benefits.

Annual Paid Hours:

Each Full Time Worker: 2080 hours derived from (8 hours/day x 5 days/wk x 52 weeks).

Work Hours:

Full time pharmacists work a 12 hour shift 3 days per week from 9:00 AM – 9:00 PM and are paid for 40 hours. Part time/relief pharmacists work the same 12 hour shift and are paid for actual hours worked.

Full time technicians and cashiers work 8 hour shifts 5 days per week from 9:00 AM – 5:00 PM. Part time/relief technicians and cashiers work 4 hour shifts from 5:00 – 9:00 PM.

Lunch and Dinner Periods:

Lunch occurs 12:00 – 12:30 PM and dinner occurs 5:00 – 5:30 PM at which time the prescription filing process is temporarily closed since it cannot operate by law without a pharmacist on duty. Lunch and dinner periods for full time or relief pharmacists as well as lunch period for full time and relief technicians and cashiers are considered paid time hours due to the erratic ebbs and flows of the work load that may result in skipped meal breaks. Part time technicians and cashiers who work evening hours do not have a scheduled or paid dinner period.

Work Breaks:

Morning and afternoon breaks for full time staff are not scheduled but taken in staggered shifts as work load allows. No breaks are scheduled for part time cashiers and

technicians, who work the afternoon shift 5:00 – 9:00 PM. Therefore, break time is ignored in the productivity hours discussed below.

Minimum Productivity Hours by Staff Type:

All calculations are provided below. For simplicity, this case assumes vacation days, holidays, sick time, lunch/dinner periods and personal leave day are taken by each staff member for whom the benefits apply.

Full Time Pharmacists:

1678 productivity hours derived from 2080 paid hours – 160 vacation hours – 48 holiday hours – 48 sick time hours – 8 personal leave hours – 138 lunch and dinner periods (1 hour per day x 3 days/wk x 46 weeks each full time pharmacist is present and producing work).

Full Time Technicians:

1776 productivity hours derived from 2080 paid hours – 80 vacation hours - 48 holiday hours - 48 hours sick time – 8 hours personal leave -120 lunch period hours (.5 hours per day x 5 days/wk x 48 weeks each full time cashier is present and producing work).

Full Time Cashiers:

1776 productivity hours derived from 2080 paid hours – 80 vacation hours - 48 holiday hours - 48 hours sick time - 8 personal leave hours - 120 lunch period hours (.5 hours per day x 5 days/wk x 48 weeks each full time cashier is present and producing work).

Job Duties:

Pharmacist: Interpret physician orders; interact with physicians by phone, fax and email; check the incompatibility of ordered medications with other drugs or foods consumed by the patient; approve all prescriptions prepared by the technician; document all approvals; address any questions; and provide instructional assistance to customers.

Technician:

Place prescribed medication into the packaging, which incorporates stocking and operating a computer driven robot that counts and places medications in containers; attach labels to packaging; and verify insurance coverage for the prescribed item.

Cashiers:

Verify customer identity and match it to the prescription being dispensed; collect out-of-pocket costs not covered by insurance; operate the cash register; cover the drive-thru

window; direct customer questions about medications to the pharmacist; and secure customer signatures to document that prescriptions and instruction have been received.

CASE ANALYSIS ASSIGNMENT

Each student (or group of students as assigned by the instructor) is required to assume the role of Bill Bradley, store manager, in meeting the request of the vice president in the cases analysis exercise steps listed below.

1. Estimate the total number of hours of pharmacy operations per year.

2. Estimate the number of prescriptions (Rx) filled during the operational year.

3. Estimate the number of pharmacists needed to perform the required work for the operational year.

4. Estimate the number of technicians needed to perform the required work for the operational year.

5. Estimate the number of cashiers needed to perform the required work for the operational year.

6. Estimate the annual labor cost, including wages and benefits, to operate the pharmacy for:
   Pharmacists:
   Technicians:
   Cashiers:
   Total labor costs:

7. Calculate total labor cost per operational hour (becomes labor dollars per operational hour ratio expressed as $: 1 operational hour).

8. Calculate total labor cost per prescription (Rx) filled (becomes labor dollars per Rx ratio expressed as $: 1 Rx).

9. Calculate the number of prescriptions (Rx) filled per technician hour worked (becomes Rx per technician hour expressed as Rx: 1 technician labor hour). Note that the focus is on worked hours rather than hours paid, since the technician is not producing work when away on vacation or absent due to illness.

10. Calculate the number of prescriptions filled per operational hour (becomes Rx per operational hour ratio expressed as Rx: 1 operational hour).

CASE DISCUSSION QUESTIONS

1. Discuss assumptions made in preparing the analysis. What are some of the implications of these assumptions?

2. Discuss why units of measure such as those in questions 7-10 above are important.

3. Assume new retail drug store technology (a more advanced robot) allows production to move to an average of 400 prescriptions filled per day of operation without any increase in staffing. What would be the impact on the number of prescriptions produced per year, total labor cost and labor cost per prescription filled?

4. Assume there is a strategic plan for the drug store chain to merge with the chain that operates a competing drug store across the street. What would be the staffing and budgeting implications?

5. How could expected turnover among pharmacy technicians be factored into the budget and what would be the result?

6. What would be the staffing and budget implications of the pharmacy being closed on Sundays?

7. Conversely, what would be the implications of the pharmacy operating 24 hours per day, including Christmas Day?

8. What is the impact if hourly wages increase by ten percent per employee level while benefits remain unchanged?

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LINEAR SYSTEMS: THE RE-INVENTION OF AN ORGANIZATION-THE DIGITAL IMAGING FUTURE

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CASE DESCRIPTION

Organizations dominate the landscape of our lives; their survival in this competitive world is very crucial. This case is about an organization (i.e. Linear Systems) that, as a result of the competitive nature of its industry, transformed itself from the business of selling computers and digital photographic equipment to becoming a leader in digital imaging technology.

The core pedagogical objective of the case is to provide an applied, hands-on format for students to increase their understanding of the topics of organizational lifecycle, change, and development.

This case is intended for use in advanced undergraduate or graduate courses in Organizational Behavior, Organizational Theory and Behavior, Organizational Development, and Strategic Management. It is designed to compliment knowledge derived from theories and concepts in organizational lifecycle, change, and development by providing the student with the opportunity to apply such theories and concepts in an actual organizational setting. The case is well-suited for a written case analysis and/or oral presentations. The authors developed the case for class discussions rather than an illustration of organizational (in) effectiveness. The case, instructor's manual, and synopsis were anonymously peer reviewed and accepted by the Western Casewriters Association Conference, February March 19, 2009, Midway, Utah.

CASE SYNOPSIS

From the time of its inception in 1988 until June 1992, Linear Systems' business focused exclusively on reselling computers and digital photographic equipment. Given the competitive and saturated nature of the market, Chris Parsons (founder and CEO) recognized the need for change. He commenced transforming Linear Systems, making it a leader in digital imaging technology. By September 1998, Linear Systems had reinvented its principal business purpose-digital photography and software. By leveraging its success in the digital imaging hardware market, Linear Systems re-invented itself into both a software developer and a builder/integrator of computer hardware, the integration of which transformed Linear Systems into a full service digital-data management company which provided data management solutions to business and government agencies.

While the re-invention process started more than 10 years ago, the breakthrough came in 2005 when several large law enforcement agencies collaborated with Linear to develop its Digital Information Management System known as DIMS ImageServer.

As the organization entered 2009, the key question facing the executive management in its strategic planning meeting on November 14 and 15, 2008 was what new directions were needed at Linear Systems to attain its goal of positioning itself as the digital imaging management vendor of choice to the nation's law enforcement agencies, particularly given its vision to become the standard for this still emerging, yet fast growing market.

Thus, the case focuses on the evolution and transformation of Linear Systems as it experiences its organizational life cycles and the change process itself.

The Case Synopsis and the Case Description should be removed before this case is assigned to a student or student group. This information could prejudice the minds of students.

INTRODUCTION

It was decision time for Linear Systems' executive management team during its strategic planning meeting in November of 2008. The key decision to be made was what must Linear do, pursue, or change if it wanted to attain its goal of being a leader in the digital imaging management business? As a predicate to identifying and assessing the possible strategic choices confronting the organization, the management team commenced its meeting with a review of Linear Systems' organizational and commercial evolution. Linear Systems' CEO, Chris Parsons began the discussion with his recollection of when he was sitting behind his desk approximately 15 years ago, his eyes glued to the monitor of his old Compaq computer quietly reviewing a customer's order, when he was first struck with the idea of developing Linear Systems into a digital imaging management company.

Parsons directed his listeners to approximately 10:00 a.m. on an early spring day in 1997 within the noisy, small offices of Linear Systems in Rancho Cucamonga, California. Unexpectedly, James Irwin, an old friend and a retired police officer, entered Parsons's office, quietly closing the door behind him. "What a surprise James!" said Parsons. "I'm here to have a warm cup of coffee and to further our conversations of last week on image alterations," answered an overly excited Irwin. Irwin reached for a mug, filled it with the freshly brewed coffee that Parsons had recently prepared, and renewed the conversation. While the subject of their conversation was on the ease with which digital images could be altered and/or manipulated, Irwin explained that law enforcement agencies were reluctant to use digital technology and its generated data because of how easy it was to alter or manipulate the data. Parsons responded, "Such things are always on my mind my friend!" Parsons knew first hand that many law enforcement agencies were still working with film, video cassettes or were even backing up data to individual CDs and storing such items in evidence lockers. The risks associated with the loss of or damage to film-generated photographs, video cassettes or CDs were readily apparent to

Parsons. Such mishaps clearly threatened a department's credibility and potentially expose it to liability.

After the brief exchange in the office, the two left the office for an early lunch at the nearby Panda Inn restaurant in Ontario to further their discussion.

Parsons had spent several of the last 15 years merging his interest in computers and photography into a growing business in the relatively new field of digital photography. He now faced a dilemma and there was no easy answer. Digital photography was becoming a commodity item and customers were unwilling to continue to pay for the support and service that Parsons's company, Linear Systems, provided. His conversations with Irwin confirmed his belief to move forward into the untapped market of digital imaging management solutions. Based on that, Parsons needed to make some decisions and he needed to make them fast. What he did not know was that the answer was already staring him in the face.

COMPANY BACKGROUND

Located in Rancho Cucamonga, California, Linear Systems [1] was founded in April 1988 as a reseller of computers and digital photographic equipment. The company's real story actually began in 1992 when it started moving away from computers into digital photography systems. Linear Systems was servicing both the corporate and public sectors at the time.

The digital photography market allowed Linear to be on the cutting edge of new technology. Customers ordered new equipment as well as training with respect to the use of such equipment. Linear grew with this market. However, one of the problems with new technologies was, and is, that they eventually become commoditized, especially in the digital photography market. [2] In other words, there was very little product differentiation with respect to digital photography hardware, making it difficult for Linear Systems to recoup profits driven by such differentiation. The answer to the impending commoditization confronting the organization was for it to reinvent itself. Accordingly, the survival of Linear Systems necessitated a new emphasis, a new direction. 3 Upon reflection, Parsons explained:

> I aspired to take advantage of my love and knowledge of digital photography and technology. I had been a digital camera and photography enthusiast for some time. If I could leverage my passion for digital photography, I could simultaneously pursue a product market with which I had great personal and professional interest while simultaneously pursuing a living. What a lost opportunity it was for me not to capitalize on what I perceived to be my core, competitive strength. It was becoming more and more apparent to me that I needed to somehow merge more of my technical expertise and knowledge into the business operations of Linear and profitably leverage its emphasis going forward. The future success of the firm clearly required a new direction. [4]

Parsons decided it was time to integrate Linear Systems hardware line of digital cameras with his interest in managing, preserving and archiving the digital data produced by the

hardware. As more and more digital data was generated, the more and more need there was for managing digital data for both the novice amateur photographer as well as the professional.

By September 1993, Linear Systems re-invented itself. By emphasizing a new direction, it became a full service digital-data management company providing data management solutions to business and government agencies.

One of Linears' early key customers in the mid-nineties was Rockwell Collins. In early December 1996, The Boeing Company acquired Rockwell's aerospace and defense units in a transaction valued at approximately $3.1 billion. [5] As a consequence of this acquisition, Boeing became Linear Systems' first major customer. However, at this stage of the organization's evolution, Linear Systems product market was limited to the sale and distribution of digital imaging equipment.

In 1997, Linear Systems encountered another fortuitous market opportunity when one of Southern California's police departments purchased a number of cameras from Linear Systems. At this time, it became apparent to Parsons and his company that an even greater niche would be the management of digital photographic data compiled as part of law enforcement investigations, especially given the need for such data to accurately depict a crime scene under official investigation. Long before digital cameras were ever adopted by law enforcement agencies as a tool for forensic investigation, digital cameras were first introduced into the law enforcement market as ground breaking technology that provided a cheaper alternative to traditional film technology. Digital cameras were sold with the understanding that the digital images could easily be enhanced and/or altered with the help of software programs.

The fact that digital images could easily be enhanced and/or altered to provide false testimony, however, raised serious issues whether digital cameras could properly serve the needs of law enforcement agencies in their investigatory role. It was soon observed that the ease with which digital data could be manipulated impacted law enforcement agencies' demand for and prospective use of digital technology. Looking for a way to capitalize on its recent market entry as a reseller of digital photographic equipment, as well as a way to differentiate itself from other resellers of such equipment, Parsons approached Gary Gonnella, a good friend and software developer, for the purpose of developing a software solution for managing data bases of digital photographs. Gonnella and Parsons scrawled specifications on a napkin that led to the birth of Linears' Digital Information Management Systems (DIMS) product, a software product with five key design tenets: "simple, simple, simple, fast, fast." DIMS was a software management program designed to automatically download digital photographic data bases directly into specific, dated storage files. For example, a professional or amateur photographer could download a series of digital photographs taken at an event into a single, dated and labeled electronic file (e.g., "U.S. Highway 91 fatal accident-Orange County: March 5, 2005").

While Linear started the development of its imaging software more than 10 years ago, the breakthrough came in 2005 when several large law enforcement agencies collaborated with Linear to develop its Digital Information Management System known as DIMS ImageServer.

Linear's ImageServer "was designed as a browser based systems with a robust security model that allows for images to be accessed through a browser while maintaining a chain of custody". [6]

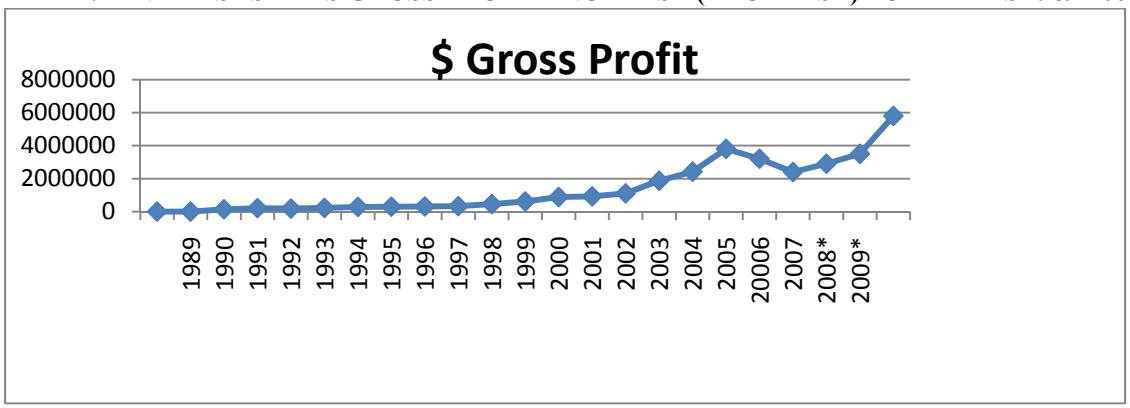
During the 10-year period between 1999 and 2008, Linear Systems gross profit increased from $980,000 to $3,500, 000. Please see Exhibits 1and 2. At the end of 2008, Linear employed 20 employees. [7]

EXHIBIT 1: Linear Systems' Financial Highlights: Gross Profit 1989- 2008***

Year	$ Gross Profit	Year	$ Gross Profit	Year	$ Gross Profit
1989	143, 000	**1996**	489, 500	**2003**	2, 420, 000
1990	211,000	**1997**	512, 000	**2004**	3, 800, 000
1991	189, 000	**1998**	771, 000	**2005***	3, 200, 000
1992	222, 500	**1999**	980, 000	**2006***	2, 400, 000
1993	288, 000	**2000**	1,020, 000	**2007***	2, 900, 000
1994	298, 000	**2001**	1, 110, 000	**2008****	3, 500, 000
1995	312, 000	**2002**	1, 370, 000	**2009****	5, 800, 000

* The drop in gross profit for 2005, 2006, and 2007 resulted from the decision to phase away products re-selling and focusing on the development of the Digital Information Management System. The phasing away of the products started in the year 2005 and was completed in the year of 2007.
** 2008 was expected and 2009 was forecasted.
*** Net profit data is unavailable due to its confidential nature. Although Linear Systems' net profit data was confidential, the authors of the case have sufficient evidence indicating a positive correlation existed between the company's gross and net profits.
Source: This exhibit was derived from gross profit data provided by Linear Systems. [8]

EXHIBIT 2: LINEAR SYSTEMS GROSS PROFIT INCREASE (DECREASE) FOR YEARS 1989-2008 **



* 2008 was expected and 2009 was forecasted.
** Net profit data is unavailable due to its confidential nature. Although Linear Systems' net profit data was confidential, the authors of the case have sufficient evidence indicating a positive correlation existed between the company's gross and net profits.
Source: This exhibit was based on Linear Systems provided gross profit summary.

THE EMERGENCE OF LINEAR SYSTEMS' DIGITAL INFORMATION MANAGEMENT SYSTEM (DIMS)

Linear Systems developed the first version of its Digital Information Management Systems (DIMS) in 1998. By offering a digital management software program with the sale of its digital cameras, Parsons foresaw an opportunity for Linear Systems to earn greater margins with respect to the sale of its digital photographic hardware. Upon an officer returning from a crime scene, crime scene photos would easily download from a digital camera using a DIMS Download Station, a station that included a device that read data from a USB or various memory cards. [9] Please see Exhibit 3.

EXHIBIT 3: DIMS Digital Download Station

Source: The picture was supplied by Linear Systems and used with its permission.

In Linear Systems dealings with a local police department, it became more and more apparent that "law enforcement agencies were so concerned with image manipulation that many were reluctant to go digital". [10]

At the request and with the assistance of several law enforcement agencies, Linear Systems began developing software designed to manage and administer authentication and chain of custody issues pertaining to digital photographic evidence in an effort to temper law enforcement's cautious reluctances to adopt and transition to digital photography. It was Linear Systems' responsiveness to the input of its law enforcement agency customers that ultimately led to Linear Systems' development of its DIMS software program. [11]

DIMS was originally created by and for law enforcement as a tool to manage its digital imaging data needs as it entered the digital imaging age. As police departments began adopting digital photography as an investigatory tool (in lieu of traditional but more costly film photography), a corresponding departmental need arose for the management of such digital data. DIMS was and continues to be a response to growing concerns arising from the creation, collection, distribution and storage of such official and evidentiary digital data. Although initially offered as a management solution accommodating law enforcement's transition from traditional

film photography to digital photography, DIMS now offers management solutions for all forms of electronic evidence. This includes not only digital photography but voice and video evidence.[12]

As individuals, private firms, and governmental entities and offices began to convert hard-original documents to digital formats, whether for distribution or archival purposes, such conversions would require credible management strategies and services. Conversion from hard-original documents (including film) to digital imagining was often pursued for four reasons: "(1) to save money; (2) to save time, (3) to increase the quality of photographs, and (4) to increase the quality of communication with easy distribution of [documents and] photos".[13] However, "the transition from film [or hard-originals] to digital can be fraught with problems and at times can be seen as a military operation, or at least requiring military precision". [14] A successful conversion to a digital archival system requires the implementation of an appropriate technical infrastructure supported by an integration of both software and hardware, all of which adhered to and accommodated relevant policies and procedures, whether prescribed by internal management or by external law or regulations. [15]

Additionally, once a private or public firm or agency converted from hard-original and/or hard-copy record-keeping to digital record-keeping, securing access and distribution of such records was also of great importance, especially with respect to confidential and proprietary information. The ease, with which such digital information could be copied and distributed to external sources, required both public and private firms to consider management solutions that would maximize security and distribution control of such digital information. For example, a California family filed a civil lawsuit against the California Highway Patrol for having been "tormented by images of their decapitated teen daughter", [16] which were being circulated worldwide on the internet. Similarly, a central Florida city received a complaint involving the alleged violation of a fire victim's privacy rights resulting from the distribution, via e-mail, of investigatory photos of a 26-year old woman being treated by emergency workers after she crashed her sport utility vehicle into a tree. [17] At least one image of the female victim exposed her breast; the fire chief ultimately resigned. [18]

It also merits noting that the United States Department of Justice recently reported:

> Developments in the world have shown how simple it is to acquire all sorts of information through the use of computers. This information can be used for a variety of endeavors, and criminal activity is a major one. In an effort to fight this new crime wave, law enforcement agencies, financial institutions, and investment firms are incorporating computer forensics into their infrastructure. From network security breaches to child pornography investigations, the common bridge is the demonstration that the particular electronic media contained the incriminating evidence. . . [19]

Digital evidence, by its very nature, is fragile and can be altered, damaged, or destroyed by improper handling or examination. Examination is best conducted on a *copy* of the *original evidence*. The original evidence should be acquired in a manner that protects and preserves the integrity of the evidence. [20]

> [The United States Department of Justice] recommends that agencies likely to handle digital evidence identify appropriate external resources for the processing of digital evidence before they are needed. These resources should be readily available to for situations that are beyond the technical expertise or resources of the department. It is also recommended that agencies develop policies and procedures to ensure compliance with Federal, State and local laws. [21]

It is against the above backdrop that Linear Systems' DIMS continued to evolve, working primarily with law enforcement agencies for 10 years creating and improving its management solutions to fit departmental concerns and best practice scenarios. Since 1988; Linear Systems had acquired additional strategic customers including Los Angeles Police Department,

Las Vegas Metro Police Department, Anaheim Police Department, City of Louisville, and the Santa Ana Police Department- to name a few. [22]

PRODUCTS AND SERVICES

Ultimately, Linear Systems began marketing itself as a leader in delivering comprehensive automated digital information workflow solutions to both the private and public sector throughout the United States. In 2008, Linear Systems estimated that 98% of its capacity was devoted to the servicing of the public sector. Its services and products generally included: consultation, engineering of customized solutions for specific tasks, creation of associated policies and procedures, installation of integrated systems of hardware and/or software, modification of existing systems and operations by the integration of DIMS into such systems and operations. [23]

DIMS Core Solutions Software

Linear Systems DIMS software was first designed specifically for law enforcement use, and thus, the strategic focus of Linear Systems was the law enforcement service market. In this regard, DIMS was a complete and extremely adaptable digital information manager of photographic, audio, video and documents that simplified the acquisition and archive of information generated either from the day-to-day operations of an individual, firm, investigative agency or governmental office or entity, whether gathered in the field or lab. Linear's DIMS software provided credibility, authenticity and security with respect to the information generated

and/or gathered. More importantly, DIMS provided access security while logging an audit trail with respect to the chain of custody of the digital information in question, contemporaneously archiving redundant; secure data in a non-proprietary format. [24]

DIMS ImageServer

In 2005, with the collaboration of several larger law enforcement agencies, Linear developed its DIMS ImageServer. The ImageServer was designed as a browser based system with a robust security feature that allowed images to be easily accessed through a browser while maintaining a chain of custody. Linear's DIMS ImageServer consisted of both hardware and software designed to provide additional features, enhanced performance, scalability, and expandability with respect to the management of digital evidence and information.

The DIMS Image Server was designed as a secure centralized repository for the collection of data directly from systems running DIMS Core Software. Linear's Image Server added a customized searchable database, a web based browser access with unlimited user licenses, and a very powerful advanced security protocol to control access and log tracking. Combining both DIMS ImageServer and DIMS Core Software products, Linear Systems created an end-to-end solution that would satisfy the needs of any large agency.

DIMS ImageServer Solutions were designed for a mid-to-large size organization that requires chain of custody, security, reliability, redundancy, and management of digital evidence from multiple sites with a large number of users. ImageServer was first rolled out to existing Linear DIMS Core clients; the Las Vegas Metro Police Department and the Las Vegas Crime Scene Investigation (CSI). With the release of ImageServer, Linear continued to focus its energies away from the professional photography market and into Law Enforcement.

While Linear Systems server was a custom-built model based on Intel Corporation's quad-core, its software was based on a specialized Linux distribution tuned to image management. [25]

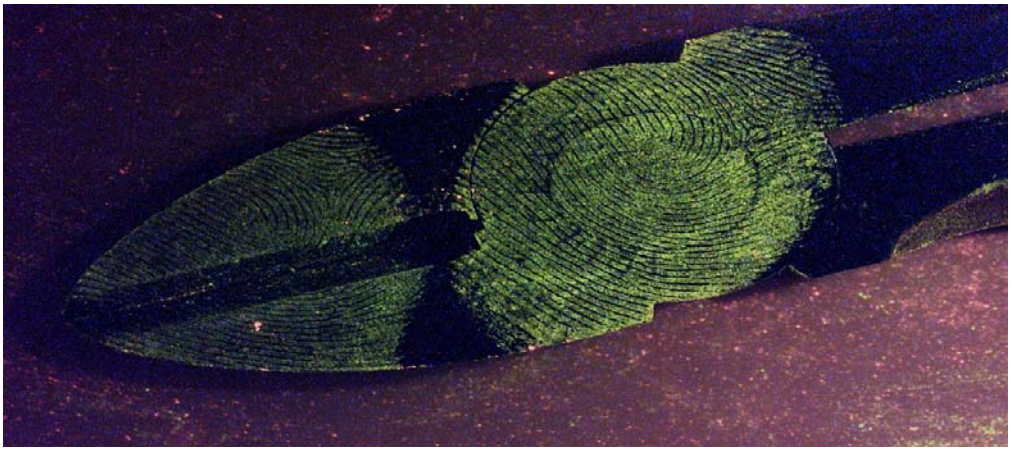
MORE DIGITAL MANAGENET SOLUTIONS FOR LAW ENFORCEMENT

In 2008, capitalizing on its knowledge of the law enforcement experience with respect to the management of digital information and evidence, Linear Systems further evolved by expanding its product and service base via introducing a subset of additive but related digital information management solutions. [26] See also exhibits 4 and 5.

Linear distinguished itself from other software companies in that its DIMS software a complete turnkey solution developed specifically for enforcement of an entity's policies and procedures regarding the creation, maintenance and archival of important digital information. Unlike most records management systems ("RMS"), DIMS was designed to adapt to the unique protocols and procedures of its individual clients rather than require its clients to adapt to a

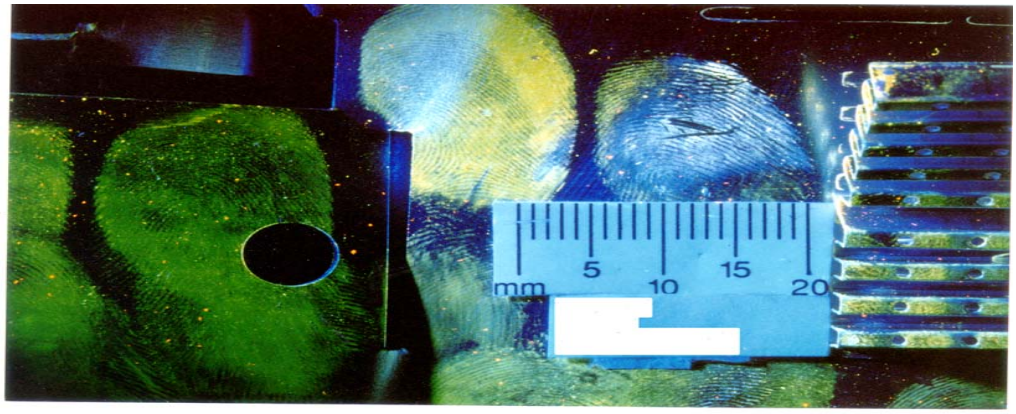
predefined, proprietary set of procedures that too often conflict with either internal and/or external policies, procedures and protocols imposed by strategic management decisions, industry guidelines and/or governmental regulation and laws. For example, it was explained that most records management systems are not suited to administer to digital data depicting color images (given their large data file sizes) or audio sound waves. It was in this context that Linear worked closely to maintain compliance with SWGIT [27], ASCLD [28] and 28CFR standards. [29]

EXHIBIT 4: **A DIGITAL IMAGE OF A FINGER PRINT UTILIZING LINEAR SYSTEMS AUTOMATIVE FINGER PRINT IDENTIFICATION SYSTEM (AFIS).**



Source: The image was supplied by Linear Systems. Used with permission of the company

EXHIBIT 5: ANOTHER DIGITAL IMAGE OF A FINGER PRINT UTILIZING LINEAR SYSTEMS AUTOMATIVE FINGER PRINT IDENTIFICATION SYSTEM (AFIS).



Source: the image was supplied by linear systems. Used with permission of the company.

Tightening Up the Standards and Keeping with the Compliance

According to Gary Gonnella, Chief Technology Officer (CTO); "Linear's DIMS software product was the only solution designed to give total ownership of the data contained within it to the department using it". [30]

All of the above 2008 product modules were fully compatible with existing versions of DIMS Core and/or DIMS ImageServer. [31]

COMPANY PHILOSOPHY AND MISSION

From its founding in the spring of 1988 until the spring of 2008, Linear Systems progressed from a company with virtually no formal mission statement (and therefore really no long term strategic mission), to adopting a mission statement in 2008, a mission statement grounded upon a strategic vision 'to be the leading provider of backend content management and chain of custody solutions for the emerging field of Digital Evidence". [32]

NEW STRATEGIC PARTNERS

To execute its strategic focus, the company served customers domestically through its internal team of sales professionals and worked closely with regionally affiliated allied professionals. This philosophy was modified significantly in early 2008 with the company's decision to explore strategic partnership with Salient Stills. [33]

Salient Stills

Salient Stills was and remains a leading video forensics and image enhancement software company located in Boston, MA. On March 3, 2008, a partnership was signed between Linear Systems and Salient Stills. The partnership purpose was to provide better support for the management of digital evidence.

As deployments of the video surveillance cameras and recorders by law enforcement agencies have increased over the past years, its management of the chain of custody increased as well.

The newly executed strategic partnership between Linear Systems and Salient Stills was to address such challenges via the integration of Salient Stills' VideoFOCUS video forensics software with Linear Systems' Digital Information Management System (DIMS) for customers. Under this new strategic agreement, VideoFOCUS was integrated for all clients who used the DIMS system. [34]

Cardinal Peak

On August 16, 2008, Linear Systems and Cardinal Peaks announced the integration of the CaseCracker Interview Management System to provide investigators with a complete digital media management system. CaseCracker automated the acquisition of video and audio to preserve potential evidence, it provided a crystal-clear record, using video and audio, of exactly what was said during police interviews. [35]

Linear Systems Management Profile

In assessing Linear Systems organizational foundation and evolution, the authors inquired with Mr. Monteros, Linear Systems' Chief Operations Officer ("COO") for a description of the organization's executive management team. Mr. Monteros responded with the following information: [36]

> Chris Parsons, Founder and Chief Executive Officer ("CEO"). He has been a digital imaging expert in the law enforcement and aerospace fields. Chris has been involved with law enforcement policy and procedure, training and system integration for over 30 years and has been providing software and hardware solutions to law enforcement since 1988, when Linear was founded. Chris taught Digital Imaging Management classes, lectured at various institutions, and had written numerous articles on Image Management.
>
> Gary Gonnella, Chief Technology Officer ("CTO"). He was the original designer and programmer of the DIMS Core Application package. Gary had an extensive portfolio of experience in integrating imaging systems for commercial ventures and law enforcement agencies. He had 25 years of experience in engineering technology, networking, security workflow, digital integration, image management, and hardware and software technologies. Gary was the primary technical contact and the person who coordinated the installation, support, and training for the system. Gary has been a published author and an expert in the field of digital image processing.
>
> Stephen Monteros, Chief Operations Officer ("COO"). He had 15 years of experience in the areas of technology and implementing growth strategies with experience in both large and corporate settings. Stephen holds a Bachelor of Science in Industrial Technology, an MS in Marketing and a Certificate in Finance. Prior to Linear, Stephen has held positions as an area manager for the General Electric Company, a national sales manager at the Relisys Corporation (a

division of TECO Ltd.) and served as Vice President and General Manager of GST, Inc. Stephen has served on advisory boards for both Intel and Hewlett Packard. Stephen has successfully implemented technology mergers and acquisitions that have allowed organizations to experience significant growth and penetration of new markets.

Benedetta Parsons, Chief Financial Officer ("CFO"). She has been active at Linear for the last 10 years. She had 20 years of experience in the field of education and back office management. Benedetta managed day-to-day operations and worked closely with the company's accountants with respect to financial management and planning.

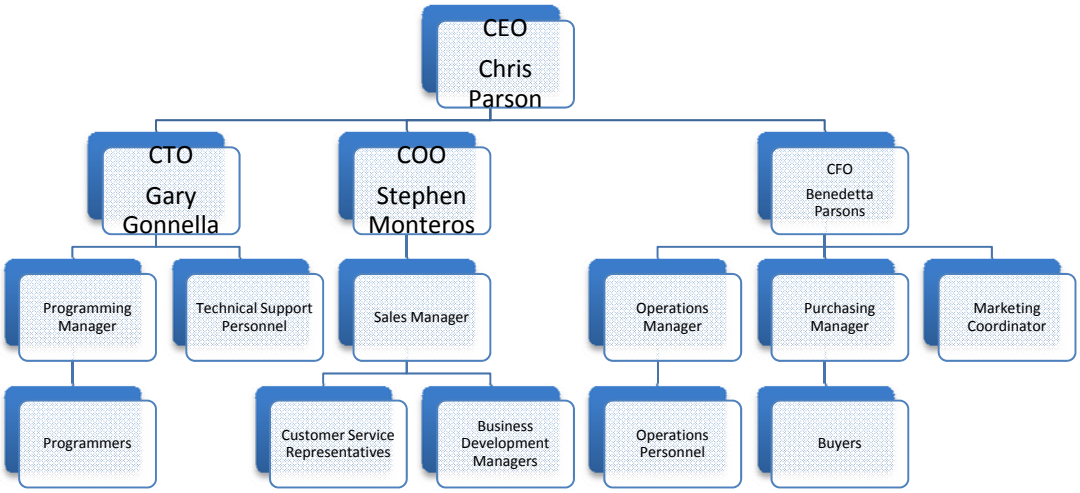
ORGANIZATIONAL STRUCTURE

Linear's organizational structure was a functional one. Its organizational structure is shown in Exhibit 6. [37] While all executives reported to Parsons (CEO); Gary Gonnella (Linear's CTO), handled the technology side of the organization. The programming manager and the technical support personnel reported directly to him. All business development managers (outside sales personnel) and customer service representatives reported to the sales manager who in turn reported to Stephen Monteros, Linear Systems COO. Similarly, operations manager, purchasing manager, and marketing coordinator reported to Benedetta Parsons, Linear Systems CFO.

INTELLECTUAL PROPERTY

Linear has built a formidable portfolio of intellectual property in an effort to build value in the company and reduce the threat of new entrants. Linear owned the source code for DIMS Core and DIMS ImageServer. The intellectual property rights included workflow designs specifically addressing efficiency and reliability concerns of the law enforcement sector. Additionally, the workflow design of DIMS Core and DIMS ImageServer incorporated digital management features that are incompliance with applicable state and federal regulations pertinent to the administration of law enforcement duties with respect to the collection, storage, distribution and reproduction of digital evidence. Consequently, Linear's intellectual property rights not only resulted in a competitive advantage in their relevant market, but also created a significant barrier of entry to organizations that wished to enter this space. [38]

EXHIBIT 6: LINEAR SYSTEMS ORGANIZATIONAL CHART AS OF NOVEMBER 1, 2008.



Source: This organizational structure was charted by the authors based on communications with Linear Systems' Chief Operations Officer, "Stephen Monteros".

Importantly, Linear negotiated through the Department of Defense an exclusive license for the use of certain technologies used by the military for the detection and resolving of images through video enhancement. Presently, video enhancement analysis techniques currently used by law enforcement are limited in their ability to analyze and retrieve data from video surveillance devices (i.e., bank cameras, liquor store tapes, etc.). Linear's business plan sought to develop additional licensing relationships for the purpose of bringing to the market a technology that will provide continued reliable and robust analytical capabilities currently unavailable to law enforcement. [39]

THE STATE OF THE MARKET AND THE COMPETITIVE LANDSCAPE

Linear Systems identifies the "info imaging market" as its target market. The info imaging market is a new market created by the convergence of image science and information technology. It was defined to be much broader and more valuable than the traditional "imaging industry." For example, while the imaging industry has been estimated to have a value ranging from $100 billion to $125 billion, the info imaging industry was estimated to be $385 billion. [40] Unlike the traditional imaging industry (which encompassed a few key players such as Agfa, Fuji, Gretag, Hewlett-Packard and Kodak), the info imaging industry included a broad range of companies involved in both the imaging and information technology fields.

In 2007, the Las Vegas Metropolitan Police Department Photo Lab acquired and archived over 1 million digital photographs from field Crime Scene Investigators ("CSI"), and it was anticipated that the number would grow 50% every year. With digital photography evolving from a curiosity to a mainstream application in the space of a decade, and with audio and video recording following suit, law enforcement agencies across the nation were looking for solutions to manage the ever-increasing amounts of this vital evidentiary data. Las Vegas Metro Police Department turned to Linear Systems and through Linear's flagship DIMS solution, Las Vegas Metro was able to rise to the challenge and manage those photographs without losing a single one. [41]

In the United States in 2008, there were an estimated 17,784 law enforcement agencies, spread across federal, state and local jurisdictions. Policing and law enforcement services are mainly provided and administered by local government. It was estimated that there were approximately 12,666 local police agencies and 3,070 local sheriff's departments. It was also estimated that only five percent (5%) of law enforcement agencies had adopted a system to manage their digital evidence, two percent (2%) of which Linear Systems currently services. Thus, there was tremendous growth potential in the digital evidence management solutions product/service market. [42]

Linear anticipated that the next wave of demand-side entrants in the imaging market will be less technologically savvy that those who preceded them. They will require simpler tools for posting, managing, controlling and distributing images. They will also require more secure and protected image management solutions. Future demand-side entrants would likely emerge from law, insurance, and public administration markets. [43]

With the state of the economy in 2008, public budgets were and continued to be strained for resources and thus required administrative agencies to adopt efficient, cost saving tools for use in the performance of their duties. Thus, the cost effectiveness of the Linear product, combined with the availability of state and federal grant programs (e.g., through the Department of Homeland Security), Linear's expansion was optimistic and will likely prevail even in recessionary climates.

COMPETITORS

In 2008, Linear Systems identified both Foray Technologies and Dataworks Plus as potential competitive threats; [44] Linear Systems also identified itself as the more established and mature player in the market place given its founding status in the area of electronic evidence management. Moreover, the market penetration for this technology at the time was relatively low. In July 2008, Linear Systems received approximately 30 inquiries per month from agencies referred from Linear's installed bases.[45] At that stage of its development, Linear Systems did not employ outside marketing or public relations firms.

Foray Technologies

Foray Technologies developed a digital asset management suite and authentication products that provided custom imaging and chain of custody solutions to law enforcement agencies. Foray Technologies created a partnership with FLEXnet to offer law enforcement agencies the needed software options.[46] It also provided "a wide range of image analysis tools including forensic analysis, pattern removal, image encryption and automatic processing tracking". [47] Additionally, in November 2006, Foray Technologies partnered with ImageWare Systems (a provider of a comprehensive digital booking, identification and investigative solution to law enforcement agencies). Under that agreement, Foray Technologies and ImageWare will jointly market and sell their solutions. [48]

Foray Technologies systems were known as ADAMS, "Authenticated Digital Asset Management System". The company started in San Diego, California with locations in Washington D.C., Baltimore, Charlotte, Chicago, and Seattle. [49]

Dataworks Plus

DataWorks Plus was founded in Greenville, South Carolina in 2000. DataWorks Plus focused on the law enforcement and criminal Justice markets. Its customer base included over 500 criminal justice and law enforcement agencies in approximately 37 states in the U.S. and in New Zealand. DataWorks Plus's Fusion-im "Fusion Information management" was its flagship product. It was made to fuse and locate law enforcement agencies' criminal history records in one place without redundant storage.[50]

THE FUTURE

Linear Systems strategy was to continually develope its imaging software and its Digital Information Management System (DIMS ImageServer).

As Linear Systems entered 2009, the key question facing the executive management in its strategic meeting on November 14 and 15, 2008 was: What new directions are needed at Linear Systems to attain its goal of continuing to position itself as the digital imaging management vendor of choice to the nation's law enforcement agencies, particularly given its vision to become the standard for this still emerging, yet fast growing market.

END NOTES

1. Linear Systems is located at 8403 Maple Place, Rancho Cucamonga, CA 91730.
2. Chris Parsons. *Linear Systems: An interview (July, 11, 2008)*. Rancho Cucamonga, CA,
3. Ibid.
4. Ibid.

5. For more information on this acquisition, visit: http://www.boeing.com/news/releases/1996/news.release.961205.html. This story and its related information were obtained through a direct interview with Chris Parsons and BOEING's web information follow-up was retrieved on August 2, 2008 from the Boeing Company's website, (posted December 5, 1996).
6. Linear Systems. *Business Plan-August 2008 page 6*-Unpublished document. Rancho Cucamonga: CA, Linear Systems.
7. Stephen Monteros, Linear Systems, (Rancho Cucamonga, CA: An Interview on December 15, 2009). Gross profit, is simply sales revenue less cost of goods sold. It is a fundamental measure of profitability.
8. Ibid.
9. Joseph F. Kovar. 21 Century crime fighting: Behind the scenes with the Anaheim PD. VARBusiness, April 21, 2008. The story was retrieved on July 14, 2008 from http://www.crn.com/small-business/207200417;jsessionid=UWK4EVMMYTLCAQSNDLOSKH0CJUNN2JVN?pgno=1
10. Stephen Monteros. *Linear Systems: An Interview (September 8, 2008).*
11. Chris Parsons. *Linear Systems: An interview (July, 11, 2008)*. Rancho Cucamonga, CA,
12. Linear Systems. *Business Plan-August 2008 page 6*-Unpublished document. Rancho Cucamonga: CA, Linear Systems.
13. Chris Parsons. *Linear Systems: An interview (July, 11, 2008)*. Rancho Cucamonga, CA.
14. Steve Scarborough. Film to Digital Conversion-Special Considerations for Larger Agencies. *Forensic Magazine,* (April/May 2005), paragraph 5. Retrieved on October 8, 2008 from http://www.forensicmag.com/articles.asp?pid=36.
15. Ibid.
16. Greg Hardesty. CHP sued over photos: Grisly accident images of decapitated teen were circulated on the internet. *Orange County Register,* (Friday, July 13, 2007), paragraph 1. The story was retrieved on July 23, 2008 from http://www.ocregister.com/ocregister/news/local/lader/article_1766686.php.
17. Ibid. See also: Local6.com. *Fire Chief Under Fire Over E-Mailed Photos of Topless Crash Victim.* The story was retrieved on July 23, 2008 from http://local6.com/print/14986331/detail.htm.
    Garrett Therolf. Family files claim against CHP after grisly photos of dead daughter appear: E-mails sent to relatives contain photos of the decapitated Ladera Ranch women. Los Angeles Times, (February 4, 2007).
18. Ibid.
    See also WFTV.com9 (2008). *Umatilla Fire Chief Resigns Amid Nude Photo Controversy*. WFTV.com9, (Posted on January 8, 2008). Retrieved on August 30, 2008 from http://wftv.com/news/14999888/detail.html.
19. Office of Justice Program. *Special Report: Forensic Examination of Digital Evidence: A Guide for Law Enforcement-2008, page iii.* Washington: DC. National Institute of Justice, United States Department of Justice.
20. Ibid, page 11.
21. Ibid, page 1-2. See, e.g. National Association of Criminal Defense Lawyers at www.nacdl.org/public.nsf. The National Association of Criminal Defense Lawyers have long voiced concerns that digital evidence can not only be incorrectly altered, but also "enhanced"—suggesting that dynamic nature of the image produced.
22. Chris Parsons. *Linear Systems: An interview (July, 11, 2008)*. Rancho Cucamonga, CA,
23. Ibid.
24. Ibid.
25. Ibid.
26. Ibid. See also: Joseph F. Kovar, ChannelWeb. 21 Century crime fighting: Behind the scenes with the Anaheim PD. From the April 21, 2008 issue of VARBusiness.

    For a list and description of Linear Systems enhanced management solutions, visit

    www.linear-systems.com.
27. The Scientific Working Group on Imaging Technology (SWGIT) was created to provide leadership to the law enforcement community by developing guidelines for good practices for the use of imaging technologies within the criminal justice system. This definition and its related information were retrieved on August 18, 2008 from http://www.theiai.org/guidelines/swgit/index.php.

28. The American Society of Crime Laboratory Directors (ASCLD) is a nonprofit professional society of crime laboratory directors and forensic science managers dedicated to promoting excellence in forensic science through leadership and innovation. This definition and its related information were retrieved on August 18, 2008 from http://www.ascld.org./content/about-ascld.
29. Code of Federal Regulations (CFR) Part 23 (Institute for Intergovernmental Research) is a guideline for law enforcement agencies. It contains implementing standards for operating federally grant-funded multi-jurisdictional criminal intelligence systems. It specifically provides guidance in five primary areas: submission and entry of criminal intelligence information, security, inquiry, dissemination, and the review-and-purge process. This definition and its related information were retrieved from the website of the Institute for Intergovernmental Research on August 18, 2008 from http://www.iir.com/28cfr/Overview.htm.
30. Gary Gonnella, *Linear Systems: An interview (December 12, 2008)*. Rancho Cucamonga, CA.
31. Ibid.
32. Stephen Monteros. *Linear Systems: An Interview (November 1, 2008).*
33. Founded in 1997, Salient Stills is a leading video forensics and image enhancement software company. Salient Stills introduced its technology to answer the need for an efficient and effective video enhancement solution. VideoFOCUS Pro and VF Source are video forensics solutions in use by law enforcement, security and military and intelligence agencies. For more information on Salient Stills visit http://www.salientstills.com/
34. For more information, visit http://www.linear-systems.com/content/view/61/69/.
35. Cardinal Peak is a custom engineering development company located outside Boulder, Colorado. It developed the CaseCracker Interview Management System, a digital video recorder for law enforcement interviews.
36. Stephen Monteros. *Linear Systems: An Interview (December 15, 2009).*
37. Ibid.
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39. Ibid.
40. Ibid, *pages 10-12*.
41. Linear Systems. *Business Plan-August 2008*-Unpublished document. Rancho Cucamonga: CA, Linear Systems.
42. Ibid, p*ages 10-12* Unpublished document. Rancho Cucamonga: CA, Linear Systems.
43. Linear Systems. 2008 *Company Brochure*. Rancho Cucamonga: CA, Linear Systems Law Enforcement Division.
44. Linear Systems. *Business Plan-August 2008 pages 10-12*-Unpublished document. Rancho Cucamonga: CA, Linear Systems.
45. Chris Parsons. *Linear Systems: An interview (July, 11, 2008)*. Rancho Cucamonga, CA.
46. Material for this section was drawn from two main sources: (a) Foray Technologies website (http://www.foray.com/company/index.php), retrieved March 1, 2009; and (b) A Case Study: Foray Technologies, Acresso Software. Retrieved March 12, 2009 from http://www.acresso.com/webdocuments/PDF/fns_cs_Foray.pdf.
47. Material for this section was drawn from Foray Technologies website (http://www.foray.com/company/index.php), paragraph 1; retrieved March 12, 2009.
48. ImageWare Systems and Foray Technologies Partner to Provide Extended Law Enforcement and Forensic Solution, from http://www.iwsinc.com/News/Archives/Foray.cfm. Retreived March 28, 2009. For more information on ImageWare, see http://www.iwsinc.com/News/Archives/Foray.cfm.
49. Foray Technology, Our Company. From http://www.foray.com/company/index.php.; retrieved March 30, 2009.
50. Material for this section was drawn from two main sources: (a) DataWorks Plus website (http://www.dataworksplus.com/AboutUs.htm), retrieved March 12, 2009; and (b) Technology for Law Enforcement & Criminal Justice (http://www.dataworksplus.com/), retrieved March 12, 2009.

WATER WORLD INSTRUCTIONAL CASE : INTEGRATING FINANCIAL AND MANAGERIAL ACCOUNTING WITH STRATEGIC PLANNING

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CASE DESCRIPTION

The primary subject matter of this case concerns integration of strategic planning with financial and managerial accounting. Secondary issues include financial accounting journal entries, relevant costs in decision making, budgeting, production schedules, and the accounting cycle. The case has a difficulty level of two, appropriate for sophomore level and five, appropriate for first year graduate level. The case is modular in nature, and is designed to be taught in 1-5 class hours. The number of hours of outside Preparation will depend on the portions of the case selected for use in the classroom, but should not exceed 10 hours.

CASE SYNOPSIS

Much has been published about integration of accounting content and breaking down of silos created within colleges of business. Introductory accounting courses generally are still divided between managerial and financial accounting or, if there is only one course, the highlights of each are presented separately. Further, business strategy is often considered only as part of a capstone class, and the use of accounting information to support strategic decision making is often overlooked.

The purpose of this case is to provide related financial and managerial accounting projects which culminate in a strategic plan. The projects are simplified but provide a discernable thread from raw materials and direct labor to plans to expand the firm. These projects are suitable for a blended financial and managerial introductory course for undergraduates or for MBA students and have been used effectively in an online teaching environment. The modular nature of the projects means that instructors can easily customize case materials.

The Case Description and Case Synopsis should be removed before assigning this case to a student or a student group. This material could prejudice the minds of students.

Student Objectives

This case is designed to help you understand and apply financial and managerial accounting concepts, and to see how the accounting system provides information that can help in financial reporting as well as managerial decision making. To accomplish this, you will be using information from Water World, Inc., a fictitious company operating a water park facility in Texas.

There are five projects in this case. The first three projects focus on managerial accounting concepts, while the fourth is oriented toward financial accounting. You will use both financial and managerial information to complete project five. To complete project one, you will prepare a production schedule and a cash budget. In project two, you will identify and focus on relevant costs for decision making and will use these costs to formulate recommendations related to production of plush toy animals. To complete projects 3 and 4, record basic entries and, in project 4 complete the accounting cycle. In project 5, you will use the accounting information you have generated to make recommendations for increased profits.

OVERVIEW

Water World, Inc. owns and operates a 75 acre water park in Sanderling, Texas. Sanderling is located in northwest Texas, a part of the state known for its hot and dry summertime weather. Because of the heat, the park's cooling waterslides and rides are very popular among residents of the region.

The company's mission goes beyond entertainment, however. In addition to entertaining park customers with water rides and swimming pools, the company educates customers about aquatic mammals through shows and exhibits. The most popular of the educational shows focuses on sea otters. In the show, otters show off a variety of tricks while a narrator describes the otters' habitats and characteristics. The otter exhibits and shows have proven to be so popular that the company has adopted the sea otter as the company mascot, and Water World sells otter toys in the water park's gift shop and to local retailers. To control costs, Water World's manufactures the most popular otter toy, a plush otter, through its wholly-owned subsidiary named Otter Land.

Project 1: Scheduling

Part I:

Required: Provide a monthly production schedule for the fiscal year beginning January 1, x1 based on the following information.

Otter Land manufactures and sells sea otter plush animals locally year round, but most are sold during the summer months when the Water World park opens for water shows and rides. Otter Land follows a policy of stabilizing employment for the core manufacturing work force throughout the year. Management believes that without this policy, the skilled workers who give the sea otter toys their special personality would quit. Therefore, the minimum production is 50,000 toys per month. By adding temporary workers, production can be increased to as much as 150,000 toys per month; however, holding inventory longer than absolutely necessary is against company policy. It is an inefficient use of resources. (Hint: note the minimum and maximum production capacity.)

The inventory on both December 31, 20x0 and December 31, 20x1 must be 60,000 finished toys. Each monthly ending inventory must equal or exceed the next month's sales projections. The sales forecasts for the next fiscal year are based on company history, tourism trends, population, age of the population, and disposable income.

Sales projections by month, in terms of numbers of toys, are as follows:

January, 20x1	60,000	July	200,000
February	60,000	August	150,000
March	120.000	September	100,000
April	80,000	October	50,000
May	100,000	November	60,000
June	200,000	December	100,000

Part 2:

Required: Prepare a monthly cash budget for the year, with a detailed listing of receipts and disbursements. For this calculation, assume that all sales are in cash. Use the following information plus the production schedule developed in part 1.

Ending balance of cash and cash equivalents on 12-31-x0: $1,900,000.
Plush toy selling price: $15 each
Costs for the coming year are estimated as follows:
Materials: Materials are purchased and paid for in the month needed for production.
2 oz of fill per toy, estimated price $.25/oz
2 oz of fabric covering, estimated price $.75/oz
Direct labor:
Cutters, .05 hour per toy, wage rate $10.00 per hour
Finishers, .5 hour per toy, wage rate $15.00 per hour

Variable manufacturing overhead: $.20 per toy

Fixed manufacturing overhead: Fixed costs of $900,000 cash are incurred evenly throughout the year.

Selling and Administrative costs: Selling and administrative expenses of $300,000 per year are incurred evenly throughout the year and are fixed. All selling and administrative are paid for in cash, and are paid in the month incurred.

Project 2: Relevant Costs

Required: Consider each of the following situations separately. Use the information from the cash budget you prepared in Part 2 of Project 1 to answer the following:

1. Make or Buy: An overseas manufacturer has approached Otter Land with an offer to make 100,000 sea otter toys for $9.25 each. The toys would be delivered in June and July, and Otter Land management believes that that the company will be able to cut back on temporary workers during those months if the offer is accepted. If management accepts the offer, fixed manufacturing overhead costs will drop by $10,000. Additional shipping and insurance costs for the purchased toys are estimated to be $100,000.

a. Based on the labor, material, variable manufacturing overhead, and fixed manufacturing overhead costs from the cash budget you prepared in Part 2 of Project 1, should management accept the overseas manufacturer's offer? Why or why not?

b. What other qualitative factors should Water World management consider before accepting the offer?

2. Sell or process further: Otter Land's management believes that there is a market for special "named" sea otter toys. The new named toys use the basic sea otter toy produced, but artisans then paint individual names on the starfish held by the sea otter. Additional labor and material costs for the addition of the handcrafted name will be $4.00 per sea otter toy. Management anticipates selling 50,000 of the sea otter toys for $21.00 each.

a. Should Otter Land process the basic sea otter toy further to make named sea otter toys? By how much will Water World's operating income increase/decrease if the company decides to make the themed sea otter toys?

3. Special Order: A major toy retailer would like to place a one time only special order in January 20x1 for 50,000 sea otter toys. If Otter Land management accepts the special order, fixed costs will not change.

a. What is the minimum amount per toy that Otter Land will be willing to accept for the one time only special order?

1. Will your answer change if the toy retailer becomes a regular customer which orders 50,000 sea otters per year? How?

b. The retailer and Otter Land agree on a price of $11.00 for the one time only order. By how much will Otter Land's operating income increase/decrease?

c. What other factors should Otter Land and Water World management consider before accepting the offer?

Project 3: Production journal entries

Required: Prepare the necessary journal entries to record the transactions below for Otter Land. Use the chart of accounts shown in Table 1.

The information below reflects sea otter production and sales transactions for February 20x1. Do not consider beginning or ending balances. The company uses one overhead account, closing it at the end of the month to the work in process inventory. For this project, you may assume that there are no raw materials or work in process inventories at the beginning or end of the month. Otter Land uses actual costing to account for overhead, not normal or standard costing. You may ignore withholding and taxes on all payroll-related entries.

Production buys the necessary fill and fabric for the month. All raw materials are immediately placed into production.

Administrative salaries are paid, $15,000.

Rent on the production building totaled $75,000. $10,000 of the total rent paid is considered to be for the administrative offices.

Wages of $960,000 for cutters and finishers.

Finishers' supervisors are paid $10,000.

Buttons, thread and beads used to finish the toys are purchased with cash: $24,000. The company lacks the technology to trace these small items to the toys being produced.

$12,000 in monthly depreciation on production equipment is recorded.

$10,000 in depreciation on the administrative and sales equipment, vehicles, etc. is recorded for the month.

120,000 toys were completed in January. Overhead expenses are closed to Work in Process inventory.

Cash sales of 50,000 toys totaling $750,000 are booked.

Table 1: Water World, Inc Chart of Accounts	
Assets Cash Prepaid Insurance Inventory: administration Inventory: animal food Inventory: concession Inventory: finished goods Inventory: raw materials Inventory: water chemicals Inventory: water saline Inventory: work in process Manufacturing Overhead Building & Equipment Land	Liabilities Accounts payable Interest payable Notes Payable Stockholders' Equity Stock Retained Earnings Income summary
Income Admission Revenues Concession Sales Plush Toy Sales	Expenses Cost of goods sold Animal food expense Depreciation Expense Insurance Expense Interest Expense Maintenance Expense Salaries Expense: Operations Selling & Administrative Expense Utilities Expense Water Treatment Expense

Project 4: Water World Monthly Journal Entries

Required:

* Prepare the necessary journal entries to reflect the transactions below. Use the chart of accounts shown in Table 1
* Beginning with the June 1 account balances shown in Table 2, create a worksheet which shows the ending balances in all accounts after the monthly journal entries have been posted.
* Journalize the closing entries.
* Create a post-closing trial balance.
* Use your information to develop an income statement and balance sheet for the month of June.

Note: Otter Land handles the production, distribution and sales of the otter toys and the Otter Land transactions are not recorded here.

Transactions during June at Water World include the following:

1. During June, seasonal plants and paint costs $1,500,000 paid in cash. (Hint: use maintenance expense.)
2. Season passes are sold for $600,000 cash. All season passes provide free admission for the summer, June 1 through August 31.
3. The medical team, full-time staff members, spent 35% of their time during June treating otters for minor injuries and inoculations. The animals in the other exhibits required the rest of their time.
4. General sanitizing chemicals (from the water chemicals inventory) were used to treat the water in the water park rides and the animal tanks, $250,000. Some animal tanks required salinization, so $30,000 in water saline inventory was used as well.
5. Cash admissions for the month totaled $2,500,000.
6. Concession sales totaled $700,000 in cash for goods costing $250,000.
7. The following cash salaries paid for the month. You may ignore withholding and taxes. Use "expense salary operating' and/or 'expense salary administration' as needed.

    Medical team: $120,000
    Dolphin trainers: $50,000
    Otter Handlers: $80,000
    Administration: $225,000

8. Bought fish, squid and other food and supplements costing $60,000 on account. $100,000 of food was used during the month.
9. The cost of utilities for the month totaled $25,000, which was paid immediately.

Adjusting entries:

10. At the end of the month, depreciation on the buildings and equipment is recorded. The buildings and equipment have an expected useful life of 35 years, and a salvage value of $5,000,000. Water World uses straight line depreciation techniques to depreciate the building and equipment.
11. June interest on the note payable is accrued. The annual interest rate on the note payable is 6 %, and the payment is due on January 1 of each year.
12. Season ticket revenue is recorded for the month.
13. Prepaid insurance is adjusted. The balance as of June 1 represents 8 months of remaining coverage.

Table 2 Water Works Account Balances June 1, x1	
Cash	$ 1,000,000.00
Prepaid Insurance	$ 4,000,000.00
Inventories:	
Animal Foods	$ 50,000.00
Water chemicals	$ 255,000.00
Water saline	$ 31,500.00
Concession	$ 450,000.00
Administrative	$ 60,000.00
Land	$ 16,000,000.00
Buildings & Equip	$ 26,000,000.00
Accum Depreciation bld &equip	$ (11,000,000.00)
Season Passes	$ (600,000.00)
Notes Payable	$ (23,000,000.00)
Stock	$ (4,000,000.00)
Retained Earnings	$ (9,246,500.00)

Project 5: Proposal

Water World is the parent company and owns Otter Land, operating it as a wholly owned subsidiary. The two firms keep their accounting records independently and are consolidated at year end. The board of directors for the consolidated unit has complete control of both firms. The board want to increase profits and has asked you to tell them the best way.

Required: Using all Otter Land and Water World data from the earlier projects, propose ways for the company to expand. Analysis of the information about the cost of various attractions as well as the cost of otter toy production is required**.** Combine this with additional research to determine a growth strategy and the effect on the schedules, production schedule, cash flow, etc. What other ideas would you suggest? What limitations face the company?

Keep your proposal concise and to the point and 6 pages long. (1) Describe briefly the business environment in which the company operates. 2) Discuss two alternative expansion strategies. (3) Give pros and cons for each. (4) Pick one and explain why you chose it. (5) Provide a projected cash flow for your proposal. Tables and charts may be provided and are not counted in the six page limit.

Proposal Format Requirements

Use Times New Roman. Set font size at 12, with 1" margins.
Paper length should be a maximum of 6 pages, double spaced. This excludes charts and references that should be listed on the last page. Provide an executive summary of your suggestions on the cover sheet, also excluded from the 6 page limit.

Headings and paragraphs organize your report. Use them. A disjointed, disorganized paper will not earn a passing grade.

When referencing an article, in the body of the paper, use a numerical superscript. On the last page, using the same numbers as in the body of the paper, give the name of the article, author, where and when it was published. Only list sources referenced in your paper. If citing a website, give the author, complete web address and date of download.

Grading:

Evaluation of your paper will be based on guidelines discussed in class. Use of references is one of the evaluation criteria. Be sure to use the American Psychological Association reference style manual when including citations in your paper.

WHICH RETIREMENT PLAN IS BEST FOR ANN SMITH?

Sanjay Gupta, Valdosta State University
W. Kent Moore, Valdosta State University

CASE SYNOPSIS

Ann Smith has recently accepted a new position as a junior executive with Fowler Inc., a company that manufactures construction equipment. Fowler Inc. offers two retirement plan options to their new employees, a defined benefit plan and a defined contribution plan. She has begun evaluating these two options, which differ considerably in their characteristics, to determine the ideal plan for her and her husband, Frank. Ann is grappling with several variables that affect the retirement choice, including how long she may work for her current employer, at what age she will decide to retire, how many years she might spend in retirement, how risk averse she is, and what the expected rate of return is. The importance of the retirement plan choice makes it critical that the Smiths consider all these variables carefully in order to make a well-informed and wise decision. Furthermore, the decision must be made within 60 days after employment begins. Which plan is best for Ann and her husband?

LIFE IN TRANSITION

It was an exciting day in the life of Ann Smith. She had just received her MBA degree from Florida Middle University. Her husband, Frank, and her parents were waiting outside the arena where the graduation ceremony was held to again congratulate her.

It seemed as though it had only been a few weeks since she had been accepted into the MBA program. Now it was all over and seemed like a blur. It would be great to have a few days to relax and not spend endless hours in the library, or on the computer, working on projects. Unfortunately, however, she did not have the luxury of time since she had accepted a position as a junior executive at Fowler Inc., a company that manufactured heavy construction equipment, and was starting in three weeks.

The move to a new city went smoothly and Ann and her husband Frank were excited about starting a new life. During the next two days, Fowler Inc. had scheduled an orientation for the new employees. This included a tour of the facilities, meetings with department managers, and an introduction of the company's retirement and health insurance options. While juggling all these meetings, Ann was also scrambling to take care of other minor issues like setting up her new office and helping Frank unpack. Work started on Monday of next week and there was still so much to do.

NEW EMPLOYEE ORIENTATION

The most substantive portion of the new employee orientation, the introduction of the company's retirement and health insurance options, was scheduled for Wednesday afternoon. By then, Ann was both physically and mentally exhausted from the flurry of activities over the last couple of days. Members of Med Cross presented the variety of health insurance options followed by a presentation by the Human Resources Director of the available retirement options. The two primary options were the Employee Retirement System (ERS) plan and the Optional Retirement Plan (ORP). Frankly, Ann had not even thought about retirement. She was only 32 and had so many other pressing issues on her mind at the moment.

The retirement session was well presented and contained very useful information. The Human Resources Director first presented the main features of the ERS retirement plan. Then, representatives from Fidelity, Vanguard, and Morgan Stanley, the three companies participating in the ORP plan, used formal PowerPoint presentations, video clips, and Q&A sessions to explain investment choices and historical fund performances. In the midst of all of this, several brochures and catalogs were distributed. Ann's folder looked like it was coming apart at the seams, not unlike what her mind felt like at that very moment. She had information overload and felt incapable of dealing with the complexities of choosing a retirement plan.

AVAILABLE RETIREMENT OPTIONS

Fowler Inc. offers two retirement plan options to their new employees, the Employees Retirement System (ERS) plan and the Optional Retirement Plan (ORP). The ERS is a defined benefit (DB) plan in which the retirement benefits are based on the number of years of service, using the following formula:

Monthly ERS benefits = (2% * years of service) * highest 24 month average salary.

The employee makes a mandatory contribution of 5% and the employer contributes 10%. There is a vesting period of 10 years which means that if employment is terminated prior to 10 years, the employee can keep only his contributions and must forfeit the employer contributions.

The ORP is a defined contribution plan in which the employee also makes a mandatory contribution of 5%, while the employer contributes 10%. The employee is immediately vested into the plan without a vesting period. Retirement benefits are determined by the performance of the investments in which the employee chooses to invest the contributions. The employer provides the employee with three national companies, each with a variety of fund options, from which the employee can choose.

So the thorny decision facing Ann was multi-faceted. Should she choose the ERS plan or the ORP? If she chose the ORP, which company and funds should she select? To make matters worse, employees had only 60 days from the date of employment to make their retirement plan

choice. Failure to make a choice within the 60-day window would result in a default selection of the ERS. Once a plan had been picked, the choice was irrevocable. Could life get any more difficult?

VARIABLES TO CONSIDER

Inflation Protection

The ERS plan offers some measure of protection after retirement against inflation. While this protection varies considerably across states, Georgia, the state in which Ann is employed, provides protection against inflation as measured by the Consumer Price Index (CPI). Historically, benefits have been adjusted 1.5% every 6-months. For employees expecting to live 10, 20, or even 30 years or more in retirement, this feature provides an incentive for employees to choose this plan.

Investment Risk

With the ERS plan, the employer bears the investment risk and guarantees a fixed monthly retirement income to the employee and the surviving spouse. In an ORP, however, the investment risk is completely borne by the employee. Retirement benefits are determined by the performance of the investments in which the employee chooses to invest the contributions. In Ann's case, her employer provides her with a choice of three national companies, each with a variety of fund options. Average annual returns can vary depending on the type of investment chosen. Nominal returns, over the past 30-years have been 11.24% for the S&P 500 Index, 9.2% for Corporate Bonds and 5.49% for T-Bills. Generally, the greater the investment risk, the greater the potential rate of return (http://www.thornburginvestments.com/literature/generic_lit/TH1401_realreal.pdf)

Employer Contributions

For the Optional Retirement Plan, contributions are determined by multiplying the annual salary per year by the percentage of the combined employee and employer contributions. Clearly, all other factors being equal, larger contributions result in greater retirement benefits. Ann's employer, Fowler Inc., contributes 10% of the base salary whereas the employee makes a mandatory contribution of 5%.

Number of Expected Years of Work, Expected in Retirement, and Life Expectancy

Since the ERS plan offers defined benefits for the duration of time spent in retirement till death of the surviving spouse, it is usually the more beneficial retirement plan when the employee starts their job at an early age, earns 30 to 40 years of service by the time they are 60 to 70 years of age, retires, and then, based on life expectancy, expects to live another 20 years or more in retirement. Since the monthly benefits in the ERS plan are fixed, the longer the surviving spouse lives, the greater the retirement benefits received. Under an ORP plan, however, the employee accumulates a lump sum benefit at retirement and has the option to annuitize the amount and receive annual retirement benefits. In this plan, the greater the life expectancy and the greater the number of years spent in retirement, the less the annual benefits. One source of life expectancy data is the current life expectancy tables developed by the Center for Disease Control (CDC). This can be found at:

http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_21.pdf

ANN AND FRANK'S BACKGROUND

Ann had just begun her first professional job and aside from a couple of thousand dollars in a money market account as an emergency fund, had very few assets. The good news was that she did not have any student loans or other debt. Ann's conservative middle-class parents taught her to spend money wisely. She considers herself to be moderately risk-averse, but wants to take full advantage of the compounding effect of money over time. She is currently 32 and realizes that at her age, with a career of 25 years or more, time is on her side. Her salary at Fowler Inc. is $60,000 per year. Frank, 33, is planning to return to school to get a master's degree in engineering.

Ann and Frank are both in good health with no apparent health problems. Based on the life expectancy charts cited earlier, Ann is expected to live to age 82 and Frank to age 78.

DECISION TIME

It has now been five weeks since Ann started her new job. Most of the trivial details had been taken care of, (employee ID, parking permit and email address), she had a functioning computer in her office, and work had been going smoothly. Ann's colleagues had been extremely supportive and she felt well accepted. Things had also mostly settled down on the home front and they were enjoying their new condo and evening walks in the wooded area right behind their backyard.

It was a Saturday afternoon and Ann and Frank were feeling relaxed for the first time in weeks. Ann was watching a particularly interesting episode on the Travel Channel and Frank had

just finished a phone conversation with his mother. She sat down by Frank and they started talking about her new job and how much she liked it. The conversation then turned to their retirement plan choices and Frank asked Ann if she had decided which option she preferred. In the flurry of all the activity over the past few weeks, Ann had completely lost track of this critical decision. Now she realized that they could not put it off any longer. They had only three weeks left before the 60-day window for making their retirement plan choice expired. If a plan was not chosen prior to this deadline, she would be assigned to the ERS plan by default. Moreover, once a retirement plan was chosen, it was irrevocable. The magnitude of the decision finally dawned on Ann. She turned off the TV and gathered up all the catalogs, brochures, and literature she had received at the new faculty orientation. "Frank," she said, "I intend to read and learn all I can about our retirement options in the next few days. Then let's talk about the best possible choice for us."

ANALYSIS NEEDED

Ann was finally completed focused on the decision-making process. Frank certainly noticed that she was spending hours reading information and writing down comments to help structure her thoughts. Only three days later, Ann told Frank: "After a lot of thought about the retirement plan choice, I've decided that we must first identify the primary variables that would affect retirement income. Then maybe we can select the retirement plan that best fits our particular characteristics and circumstances. What do you think?" Frank agreed and added: "I also believe we need to consider multiple scenarios since there are many issues we can't know with certainty." "Good idea," said Ann, "and the use of tables would be a good way to organize our computations. Whew. This decision-making process is going to take more time than I thought."

A DAY AT THE SPA

Leonard Rymsza, California State University, Northridge
Gordon Johnson, California State University Northridge
Kurt Saunders, California State University Northridge

CASE DESCRIPTION

The primary subject matter of this case concerns business law and statistical analysis. Secondary issues involve negligence vs. negligence per se; duty; breach of duty; causation; contributory vs. comparative negligence; and statistical concepts involving linear regression analysis, probability and expected value. The case also presents strategic thinking and ethical issues related to business conduct and their affects on consumers. The case has a difficulty of level three, appropriate for junior level courses. The case is intended to be taught in three class hours, including a class presentation by student teams. The case is expected to require a minimum of three hours of outside preparation by student teams that present a report.

This case is designed for use in an upper division inter-disciplinary business course. The purpose of the course is to enable students to utilize the knowledge they have gained in their lower division core business courses that include one business law course and one statistics course. However, the case can be easily modified for use as an in-class or take-home assignment in an introductory business law course by eliminating the Case A Questions on statistics.

CASE SYNOPSIS

Students are faced with a factual setting that presents practical business and ethical issues. After learning from his doctor that he was a prime candidate for a heart attack, the victim in this case considers a regimen of diet and exercise. The exercise aspect of the plan involved possible membership at a local gym, of which his wife was already a member. Following a discussion with his wife, it was decided that the victim would drive his wife to the gym and return to pick her up when her exercise session was completed. When the victim returned to the gym to pick up his wife, he waited for her in the gym lobby. While waiting for his wife, the victim suffered a cardiac arrest. Although medical assistance was immediately administered by a gym employee, and later by emergency medical technicians and trauma center personnel, the victim did not survive.

Following the victim's death, it was learned that he had suffered a sudden cardiac arrest. Individuals who suffer a sudden cardiac arrest generally survive if heart rhythm is restored using a defibrillator. The gym did not have a defibrillator on the premises. Was the gym

negligent in failing to have a defibrillator on the premises? If the gym had had a defibrillator on the premises would the victim have survived? Since the victim was a prime candidate for a heart attack did the victim contribute to his own death?

In answering these questions, the case is divided into three major parts. The first part of the case requires students to utilize their understanding of several statistical issues. They are required to: use linear regression to predict age at death given a specific cholesterol level; determine the expected cost of owning a defibrillator; calculate the age at which the average person will experience their first cardiac incident; and estimate the number of lives that are saved if a defibrillator is available for use.

The second part requires students to analyze a possible negligence claim against the gym with respect to its failure to have a defibrillator on the premises. Students are required to address the following negligence concepts: duty; breach of duty; negligence per se; actual (cause in fact) causation; damages; and defenses to negligence (i.e., contributory vs. comparative negligence). The last part of the case enables the students to propose strategies regarding settlement and ethical issues raised by the gym's refusal to assume responsibility for its actions.

The Case Description and Case Synopsis should be removed before assigning this case to a student or student group. This material could prejudice the minds of students.

INTRODUCTION

Dr. Vontz looked at Tommy Jetson with a scowl. "This is serious, Tommy. You are a prime candidate for a heart attack at age 48. Your blood cholesterol level is 290 mg/dL, you have high blood pressure, you're overweight, and you don't exercise." Tommy left Dr. Vontz's office feeling depressed, so he went to see a movie at the Multiplex Theatre in the Eastfield Mall. Although he was irritated by the commercials that were run prior to the showing of the movie, he thought that the movie was outstanding. After the movie Tommy dined on sprouts and seaweed at a health food restaurant. Not thrilled with the prospect of a continued health food diet of sprouts, seaweed and sawdust, Tommy resolved to exercise more. He hoped that exercise would result in his losing weight and the lowering of both his blood pressure and blood cholesterol level.

On July 4, 2007, the morning following his visit to Doctor Vontz, Tommy had an intensive discussion with his wife, Jipsy, regarding his health and lack of exercise. Jipsy had joined the local Silver's Gym the previous year with the expressed intent to "get in shape." Subsequent to her joining Silver's, Jipsy had continually encouraged Tommy to join her at the Spa telling him "since starting my workout program I feel great and I think the exercise would be good for your health." Tommy was steadfast in his refusal to join his wife at Silver's telling her that her "constant nagging about his health and exercise did nothing but cause an increase in his blood pressure." However, following this latest discussion regarding Tommy's visit to Doctor

Vontz, Jipsy asked Tommy if he would at least accompany her to Silver's that morning to watch her exercise. Tommy agreed, saying "I'll just drop you off and pick you up after your session is over."

Tommy did just that. He drove Jipsy to Silver's, dropped her off and returned to pick her up. Jipsy was not waiting outside of Silver's when Tommy arrived to pick her up so Tommy parked his car and entered Silver's to wait in the lobby until his wife was finished. Tommy found a seat in the lobby where he could sit and wait. While waiting for his wife, Tommy suddenly collapsed to the floor. A Silver's employee saw Tommy collapse and rushed to his side. He checked Tommy for breathing and a pulse. Determining that Tommy was not breathing, had no pulse and appeared to be unconscious and unresponsive, the employee directed that Emergency Medical Service (EMS) assistance be called. The Silver's employee then began administering cardiopulmonary resuscitation (CPR). The only medical aid that the employee was able to administer was CPR since Silver's did not have an automated external defibrillator (AED) on the premises. The employee continually administered CPR until two emergency medical technicians (EMTs) arrived 12 minutes after being summoned.

After assessing the situation and determining that Tommy was still not breathing, had no pulse and was unconscious, one EMT assumed the continued administration of CPR while the second EMT attached electrode pads from an a AED that was one item of the EMT's emergency equipment. Following proper procedures the EMT administered a first shock then a second shock and then a third shock, in accordance with appropriate guidelines. The EMT was unable to discern a pulse. CPR was resumed for one minute. There still being no pulse, an additional set of three quick shocks was administered. Again no pulse was detected. Tommy was transported to the nearest emergency trauma center. While transporting Tommy to the trauma center, the EMTs continued with CPR and defibrillation in compliance with appropriate procedures. Upon arrival at the trauma center, Tommy's care was transferred to the on-duty physician. Subsequent attempts to revive Tommy failed.

An autopsy performed following Tommy's death indicated that he did not die from a heart attack but rather from sudden cardiac arrest (SCA). According to medical experts, the only accepted treatment to restore an effective heart rhythm in victims of sudden cardiac arrest is defibrillation using an automatic external defibrillator (AED). Cardiopulmonary resuscitation (CPR) alone is not effective in treating SCA.

Tommy's wife, Jipsy, is contemplating suing Silver's Gym for negligence. The Board of Director's of Silver's Gym has asked your legal team to write a report evaluating the legal and statistical issues facing Silver's Gym.

Exhibit 1

(Exhibit 1 is a copy of a letter from Abbey Lounge to Beau Flex requesting answers to several questions relating to automatic external defibrillators.)

Silver's Gym, Inc.
Corporate Headquarters
15821 Fitness Lane
Powerlift City, Gould 00050

February 14, 2007

Mr. Beau Flex
Director of Risk Management
Silver's Gym, Inc.
1400 Treadmill Lane
Powerlift City, Gould 00049

Dear Mr. Flex:

The Board of Directors for Silver's Gym, Inc. has directed me to write this letter to you. The purpose of this letter is to request that you research several issues relating to Automatic External Defibrillators (AEDs).

As you know, the Board has been struggling with the issue of whether to provide AEDs at all of Silver's Gym health facilities. Major questions have been raised as to the costs associated with the purchase of these machines. In order the facilitate further discussion by the Board at its upcoming May meeting, it is interested in your analysis of the following issues:

1. Costs associated with the AED – purchase cost, maintenance and testing costs, education and training costs, etc.;
2. The reliability of AEDs;
3. Potential liability for coming to another's aid – the Good Samaritan issue;
4. Who will be trained to use the AED and what is the availability of the individual – must there be at least one employee on duty at all times who is trained in the use of the AED;
5. How fast must the response be in order to prevent significant neurological damage or death;
6. Is there an increased risk of liability for using an AED; (Would providing AEDs create a higher duty on Silver's part by deciding to make an AED available even though not required by law - is there potentially more liability by having an AED and not being perfect with performance and availability than there is in not having one available at all- since currently there is no requirement to have an AED on the premises is it therefore most likely that no liability exists in not having one on the premises;
7. Any other issues you believe must be considered by the Board.

Your timely response to this inquiry is appreciated.

Sincerely,
Abbey Lounge
Chairman of the Board
Silver's Gym, Inc.

Exhibit 2

(This is a copy of a letter from Beau Flex to Abbey Lounge responding to the questions in Exhibit 1)

Department of Risk Management
Beau Flex, Director
Silver's Gym, Inc.
1400 Treadmill Lane
Powerlift City, Gould 00049

April 1, 2007

Ms. Abbey Lounge
Chairman of the Board
Silver's Gym, Inc.
15821 Fitness Lane
Powerlift City, Gould 00050

Dear Chairman Lounge:

In an effort to assist the Board of Directors in deciding whether or not to provide Automated External Defibrillators at all of its health facilities, an analysis of the questions raised by the Board is hereby provided. I apologize for the length of this letter. However, the issues presented are complex and require, at times, lengthy analysis. The seven questions raised in your letter are specifically addressed below.

Costs associated with the Automated External Defibrillator (AED) – purchase cost, maintenance and testing costs, education and training costs.

AED Cost - Originally, when AED units first became available the cost was approximately $10,000 per unit. However, today, small, light-weight units cost less than $3500. The units range in cost from between $1500 to $3500 per unit. The average cost of an AED unit is approximately $2500.

Maintenance/Testing Costs - AEDs are complicated electronic devices and require regular maintenance and testing. AEDs are powered by batteries that have an approximate life span of two to five years depending on the type and capacity of the battery and patterns of usage of the AED. Batteries range in price with an average cost of approximately $150 per battery. In light of the concerns of AED reliability, it is recommended that each AED unit have a spare battery back-up. AED's also require use of disposable pads that deliver the electric shock to the victim. Generally, disposable pads have a shelf life of approximately 18 months. Each AED unit also requires at least one additional back-up set of pads. The pads must be replaced by the expiration date whether or not used. The cost of a single set of disposable pads is, on average, approximately $65.

Some AED units can perform self-testing functions. Each AED has a maintenance and testing schedule recommended by its manufacturer. It is important that the Board understands that AEDs cannot just be purchased and hung on a wall and be forgotten until the need for the AED's use arises. The cost of routine testing of an AED unit would be negligible and can be included in an employee's daily responsibilities.

Education and Training Costs - Training classes are available from various organizations. Courses generally include cardiopulmonary resuscitation (CPR) and AED training. Courses differ in length from four to six hours. The cost of a training course ranges from $40 to $60 per participant. The American Heart Association recommends that those trained in the use of AEDs receive a refresher course every 6 months and complete retraining every two years.

Currently all employees are CPR certified and are retrained every two years. The additional cost of including initial AED training along with CPR certification is approximately $5 per employee. The cost of a refresher course every six months for every employee would be approximately $15 per employee. These costs, although approximate, are believed to be reliable estimates.

The reliability of AEDs.

It is clear that AEDs are of proven clinical benefit when used to defibrillate individuals experiencing sudden cardiac arrest. AEDs are electronic devices and as such component failures do occur. It is estimated that in the last three years more than 100,000 AEDs have been recalled. In 2006 there more than 30,000 AEDs were recalled. A complete list detailing the reason for the recalls is available. In addition, data is available relating to the number of AEDs subject to FDA recalls; annual AED advisory notices issued by the FDA; the number of AED malfunctions reported to the FDA; and a detailed listing of the specific AED models that have been the subject of recalls and the purpose for the recalls. If the Board desires a thorough analysis of the available data, it is recommended that the Board contact the renowned statistical consulting firm of Tontz De Leon and Associates.

Although AEDs have a distressing failure rate, the medical community stresses that the number of lives that are saved by having AEDs readily available clearly outweigh the risks associated with the number of observed malfunctions.

Potential liability for coming to another's aid – the Good Samaritan issue.

The Good Samaritan statute is a statute which exempts from liability a person who voluntarily renders aid to an injured person but who negligently causes injury while rendering the aid. The Gould state legislature is currently considering adopting a statute that specifically exempts owners of health studios and their boards of directors, managers and employees from civil damages resulting from any act or omission in rendering emergency care using or attempting to use and AED. It is important to note, however, that one is not exempt from liability for civil damages when the actions of the one rendering aid are deemed to be grossly negligent or willful or wanton misconduct.

Who will be trained to use the AED and what is the availability of the individual – must there be at least one employee on duty at all times who is trained in the use of the AED.

The American Heart Association notes that Emergency Medical Response is more effective if multiple certified personnel are present during an incident. Ambulances and paramedics can have variable response times. Conducting CPR as part of the initial response is very rigorous and can cause significant fatigue with just one rescuer. In addition, should there be a need to use an AED at least two certified personnel should be available to render aid, one individual administering CPA and the other individual operating the AED.

How fast must the response be in order to prevent significant neurological damage or death.

According to the American Heart Association, defibrillation within the first minute of sudden cardiac arrest can save the lives of up to 90% of its victims. The sooner the shock is delivered, the better. With each minute of delay until defibrillation, the survival rate drops by 10%. If a sudden cardiac arrest victim is not defibrillated within 10 minutes, his or her chance of survival is less than 2%.

Is there an increased risk of liability for using an AED. (Would providing AEDs create a higher duty on Silver's part by deciding to make an AED available even though not required by law - is there potentially more liability by having an AED and not being perfect with performance and availability than there is in not having one available at all- since currently there is no requirement to have an AED on the premises is it therefore most likely that no liability exists in not having one on the premises.)

In deciding whether to implement or not to implement a program that affects our members it is certainly appropriate for the Board of Directors to consider and evaluate the relative risks and benefits that flow from the decision. Presently, there are no know court cases where judgments have been rendered against the user of an AED based upon negligent or improper use of the AED. The few cases that have been filed based upon liability for the negligent operation of AEDs have apparently been difficult to win because it was not easy to establish that the operator caused harm to the victim in attempting to resuscitate the victim who, absent the use of the AED, was dead or close to death when the AED was used.

However, the lifesaving benefits of AEDs, the cost of the units and program implementation and the lack of treatment alternatives provide strong arguments for concluding that a duty may be owed to members, guests, etc. who may suffer sudden cardiac arrest while present at one of our facilities. It may very well be that the failure to purchase and or use AEDs might subject the Corporation to an increased risk of liability in this rapidly evolving area.

For further clarification of the issues relating to legal liability and the decision to provide or not provide AEDs at the Corporation's health facilities, it is recommended that the Board contact Ms. Elle Woods, in-house counsel.

Other issues.

There are several other issues that the Board may wish to consider. The decision to purchase AEDs must also consider that a comprehensive policy must be developed to deal with all aspects of AEDs including: annual review of records of inspection, testing and maintenance; dissemination to employees of information about the AED policy; location and storage of AEDs; review of requests for the purchase of AEDs, replacement batteries, pads and other supplies; etc. The Board should also consider the probability that a member will suffer sudden cardiac death in light of the population age group of our members. Employee receptivity to AED training must also be considered. Lastly, the Board must consider the extent of exposure to liability on the part of the Corporation if AED's are not provided in each of its facilities.

The information provided herein is based upon extensive research of available materials that deal with AEDs. The sources of the information will be gladly furnished to the Board upon request.

Sincerely,
Beau Flex
Director of Risk Management
Silver's Gym

Mission Statement

The Mission of Silver's Gym and Health Spa is to promote the health, well-being and fitness skills of its members by providing the best and most up to date fitness equipment and fitness knowledge for strength training,

cardiovascular training, and health and nutrition programs. Through a passionate and first class Team, we strive to inspire our members to achieve their greatest individual potential.

Core Values

PROVIDING THE HIGHEST QUALITY FITNESS EQUIPMENT AND PROGRAMS

Passion for Fitness
We appreciate the health benefits that derive from being physically fit. We strive to improve each of our members' quality of life.

Standards of Quality
We have high standards and our goal is to provide the highest quality of fitness equipment and programs we possibly can.

SATISFYING AND DELIGHTING OUR MEMBERS

Our Members
Our members are our most important stakeholders. They are the lifeblood of our business. We can satisfy the ends of our other stakeholders only by satisfying our members first.

Extraordinary Member Service
We go the extra mile to satisfy and delight our members. We strive to meet or exceed their expectations on every visit to our facilities. We are aware that by doing so, our members will become advocates for programs. Advocates do more than just use our facilities, they talk about Silver's to their friends and others. We want to serve our members completely, effectively, warmly and with a smile.

Education
We can generate greater appreciation and loyalty from our members by providing educational programs on fitness and related issues including health, nutrition and the environment.

Meaningful Value
We offer value to our members by providing them with the highest quality of fitness equipment and health programs, caring service at competitive fees. We constantly strive to improve the value of our business to our members.

Inviting and Safe Environment
We create a fitness environment that is inviting fun and safe. We want our gym's to become meeting places where our members meet their friends and make new ones. We want our members to feel and be safe during every visit.

Silver's Corporate Vision

Our corporate vision is:

1. To develop a professional fitness Team. Each member of the Team will be well educated in health and fitness programs and issues; loyal to the team and our gym members; and oriented to achieve personal and gym members' success.

2. To provide a health and fitness service and message to our members and the community. We will strive to provide up-to-date programs based upon the latest research in the industry; pro-active services for our members; and a message of good health and fitness to the community through a professional marketing, advertising and branding strategy.

3. To be a recognized leader in the fitness industry. Based upon sound medical information and technology, we will strive to be at the forefront in promoting health and fitness for our entire community.

4. To provide opportunities for all Team members to further individual career goals. The promotion of internal growth and development of increased responsibilities for the purpose of promoting individual Team members is desirable.

5. To provide a safe environment for Team and gym members. All Team members will be trained in the proper use of all fitness equipment. In addition, all Team members will be trained to provide assistance in the event of any medical emergency.

Case A Questions - Statistical

Q. 1. Using the data set in Table 1, use linear regression to obtain an equation to predict age at death given a specific cholesterol level. Predict the age at which Tommy will die given his cholesterol level is 290 mg/dL. Interpret the slope in the context of this problem. Interpret the coefficient of determination.

Q. 2. Suppose it costs $10,000 to buy a defibrillator. Find the expected value of owning a defibrillator if there is a .03 probability that Silver's will lose a lawsuit regarding its operation, with each lawsuit resulting in Silver's being liable in the amount of $900,000.

Q. 3. If the age of an initial cardiac incident (heart attack or sudden cardiac arrest) is normally distributed with a population standard deviation = 15 years, find the age at which the average person will experience their first cardiac incident, given that 5% of all initial cardiac incident victims are younger than 45.

Q. 4. Suppose that over the next several years, there will be 100 cardiac incidents at Silver's. Without a defibrillator, 30 victims will die before paramedics arrive. With a defibrillator, there

is a .80 probability of saving a victim who would die without it. However, there is a .03 probability that improper use of the defibrillator will kill a victim who would have otherwise lived. Find the expected number of lives saved by the defibrillator.

Table 1 – Data Set – Cholesterol Level and Age at Death

cholesterol	age at death	cholesterol	age at death	cholesterol	age at death	cholesterol	age at death
137	63	222	69	160	86	174	53
162	85	180	71	245	57	233	49
270	59	174	67	49	75	285	56
210	73	274	47	203	81	290	45
233	79	211	70	159	79	217	47
90	91	149	83	210	83	183	73
252	47	224	47	198	63	217	53
156	72	190	52	181	60	250	41
127	97	158	58	127	63	80	93
194	49	161	56	186	55	141	71
205	51	126	77	186	68	246	41
266	59	159	59	183	72	136	85
216	51	201	77	233	43	162	72
167	62	134	71	163	54	219	45
230	78	129	90	263	67	135	86
171	72	193	60	195	66	261	64
155	93	95	104	218	68	221	68
128	91	156	60	232	50	182	88
274	72	220	67	184	55	233	41
198	63	211	70	253	73	206	51
268	35	206	58	158	90	191	72
206	76	153	61	60	79	220	80
204	74	247	72	191	64	252	53
177	78	212	75	210	77	213	76
337	58	189	54	118	70	167	64

Case B Questions – Legal Issues – Negligence

Q. 5. Was Silver's Gym negligent in failing to have an AED on the premises? (In answering this question assume that Gould Health & Safety Code §204 and §205 and Gould Evidence Code §966 in the Case Library WERE NOT in force at the time of Tommy's death.)

Q. 6. Suppose Gould Health & Safety Code §204 and §205 and Gould Evidence Code §966 in the Case Library WERE in force at the time of Tommy's death. Would your answer to Question 5 change? Why or why not?

Case C Question – Ethical & Strategic Issues

Q. 7. Regardless of the conclusions reached in Questions 5 and 6, would your firm recommend that Silver's have an AED on its premises in the future? Your answer should consider the statistical and legal issues involved as well as ethical and strategic issues.

LIBRARY - A DAY AT THE SPA

Article appearing in the January 5, 2007 issue of the *Journal of Medicine & Science in Sports*.

NCAA Committee Considers Mandatory Placement of AEDs at Division I Sporting Venues

The NCAA Committee on Competitive Safeguards and Medical Aspects of Sports is currently considering a proposal that would mandate the placement of at least one automatic external defibrillator (AED) at all Division I sporting venues.

The Committee has recently completed a survey of head athletic trainers at all 326 Division I NCAA universities. Surveys were completed and returned by 244 institutions. There were 35 cases of AED use for sudden cardiac arrest with 77% (27/35) occurring in older non-students, 14% (5/35) in intercollegiate athletes, and 3% (1/35) in a non-intercollegiate athlete. The immediate resuscitation rate was 54% (19/35). A shock was delivered in 21 cases with a resuscitation rate of 71% (15/21). None of the intercollegiate athletes were successfully resuscitated. The average cost per AED was $2460. In a ten year model (expected useful life of an AED), the cost per life immediately resuscitated was $52,400, and the estimated cost per life-year gained ranged from $10,500 to $22,500.

Every year hundreds of thousands of Americans die from cardiac incidents. Medical experts indicate that the key to survival is the timely administration of first aid including cardiopulmonary resuscitation (CPR) and, if necessary, the restoration of an effective heart rhythm using a medical devise called an automatic external defibrillator (AED).

An AED is used to deliver an electrical shock to the heart of a victim of sudden cardiac arrest (SCA). SCA is not a heart attack (medically referred to as a myocardial infarcation). A heart attack occurs when a blockage in a blood vessel interrupts the flow of oxygen-rich blood to the heart, causing heart muscle to die. However, SCA, also referred to as sudden cardiac death (SCD), occurs when the heart's electrical system malfunctions resulting in electrical impulses of the heart suddenly becoming chaotic, causing the heart to abruptly stop pumping blood effectively to the rest of the body. The victim becomes unresponsive, loses consciousness, has no pulse and stops breathing. The only accepted treatment to restore an effective heart rhythm is defibrillation. Cardiopulmonary resuscitation (CPR) alone is not effective in treating SCA.

Defibrillation is the technique involving the administration of an electric shock that can restore the heart's normal rhythm. While this procedure historically has been available only from paramedics or in hospital settings, the

development of a portable computer (AED) that can analyze a person's heart rhythm has enabled lay people, coaches and sports-medicine staff members to be trained to perform this procedure. These portable devices, about the size of a lightweight laptop computer, are increasingly more practical to have available.

SCA is responsible for approximately one-half of all heart disease deaths. Every day in the United States nearly 1,000 individuals suffer a cardiac arrest, and only about 50 will survive. In many instances death results merely because lifesaving defibrillation does not reach the victim in time. Paramedic life-saving attempts in cases of cardiac arrest are rarely successful. The time it takes for the emergency squad to respond to an emergency call is usually greater than ten minutes. Those precious minutes are the critical difference between life and death. Statistics indicate that the success rate of restoring normal heart rhythm through CPR techniques is less than 5 percent. Combining CPR with defibrillation within the first minute after arrest increases the success rate to 95 percent. However, each minute of delay in administering lifesaving defibrillation decreases an SCA victim's chance of survival by 10 percent. After a delay of ten minutes, more than 90 percent of SCA victims will die if their heart has not been defibrillated. Communities that have initiated Public Access Defibrillator programs that place AEDs in ambulances, police cars, and other public locations are experiencing SCA survival as high as 43 percent, compared with large cities with no such programs where the survival rate is as low at 1 percent.

Although the value of having AEDs readily available appears obvious, concerns regarding liability, rapid availability of emergency personnel, training, cardiac risk of the population and maintenance of the defibrillators are concerns that have been raised regarding the need for having AEDs at athletic venues.

Although the cost of AEDs is declining, most still range between $2,000 and $4,000, the statistics speak for themselves and the cost of saving one life arguably justifies the purchase price of a unit.

Article appearing in the community newspaper.
HOMETOWN TRIBUNE/ February 14, 2007

ASSEMBLY CONSIDERS REQUIRING AEDS AT HEALTH CLUBS

Hometown, Gould. Last week, the Gould Legislative Assembly met to consider legislation that would require all health clubs and spas in the state to have an automatic external defibrillator (AED) on their premises. Sudden cardiac arrest is the cause of death in more that 250,000 people in the United States each year. More than 90 percent of the victims die when defibrillation is not prompt. It is estimated that as many as 50 percent of cardiac arrest victims could be saved if they were defibrillated within seven minutes or less. However, medical experts caution that any such rescue must be swift if the victim is to survive neurologically intact.

Evidence of the effectiveness of AEDs is seen from the results of placing 49 AEDs in the two international airports located in metropolitan Hometown. During the first 12 months after the 49 AEDs were placed in the two airports, 14 cardiac arrests occurred (12 going into ventricular fibrillation). Nine of the victims were revived with an AED with no neurological damage. Further, in nine of the incidents, airport travelers – not staff personnel- successfully operated the devices.

How likely is it for a member of a health club to suffer cardiac arrest in the health club facility? The answer to this question is not precisely known. However, in one database of more than 2.9 million commercial health club members, 71 deaths were reported in a two-year period or about 1 death per 2.6 million workout sessions.

In a survey of 65 randomly selected Gould health clubs, 17 percent reported a club member having a sudden cardiac death or heart attack during a five-year period. It is important to note that the demographics of health club membership are rapidly changing. More than half of all fitness centers now have a membership base of people 35 years and older. In addition, the fastest growing membership segment is in the 55 and older age group.

Gould Health & Safety Code
Division 301 - Disease Prevention & Health Promotion
Part 1 - Chronic Disease
Chapter 12 - Cardiovascular Disease

§ 204. Each year, sudden cardiac arrest, also known as sudden cardiac death, is responsible for the death of more than 250,000 residents of the United States. Medical research indicates that the key to survival of sudden cardiac arrest is the timely implementation of a "chain of survival" including cardiopulmonary resuscitation (CPR) and the restoration of an effective heart rhythm by defibrillation. Recent technological breakthroughs have resulted in the availability of a portable lifesaving devise called an "automated external defibrillator" or "AED." In order to promote the health and safety of its citizens the following statutes are enacted.

§ 205
(a) Commencing one year after the enactment of this section:

(1) Every health studio, as defined in subdivision (h) shall acquire an automated external defibrillator (AED).

(2) Every health studio, as defined in subdivision (h), shall maintain, and train personnel in the use of an automated external defibrillator acquired pursuant to this section, and shall not be liable for civil damages resulting from the use or attempted use of an automatic external defibrillator as provided in this section.

(b) An employee of a health studio who renders emergency care or treatment is not liable for civil damages resulting from the use or attempted use of an automatic external defibrillator, except in the case of personal injury or wrongful death that results from gross negligence or willful or wanton misconduct on the part of the person who uses, attempts to use an automatic external defibrillator to render emergency care or treatment.

(c) When an employee uses or attempts to use, an automatic external defibrillator consistent with the requirements of this section to render emergency care or treatment, the members of the board of directors of the facility shall not be liable for civil damages resulting from any act or omission in rendering the emergency care or treatment, including the use or attempted use of an automatic external defibrillator.

(d) When an employee of a health studio renders emergency care or treatment using an automatic external defibrillator, the owners, managers, employees, or otherwise responsible authorities of the facility shall not be liable for civil damages resulting from any act or omission in the course of rendering that emergency care or treatment.

(h) For purposes of this section, "health studio" means any facility permitting the use of its facilities and equipment or access to its facilities and equipment, to individuals or groups for physical exercise, body building, reducing, figure development, fitness training, or any other similar purpose, on a membership basis. "Health studio" does not include any hotel or similar business that offers fitness facilities to its registered guests for a fee or as part of the hotel charges.