United Petroleum International

Background

United Petroleum International (UPI) is an international headquartered in the southwestern United States. UPI operates several refineries and engages in the sales and service of petroleum products worldwide. UPI has approximately 17,500 employees. International sales of petroleum products have plummeted during the last three quarters and the outlook shows that the trend will continue.

Increased competition abroad and a diminishing quality of sales relationships with customers/prospects were determined to be the major reasons for the lack of performance. The results from quarterly customer satisfaction surveys revealed specific areas of low performance.   The Executive Vice President (EVP) of international sales asked for an assessment of the performance improvement needs of the UPI International Sales Organization. International Sales (ISO) has 117 sales engineers and 8 sales managers. They are supported by 50 administrative employees who maintain the customer/prospect database, develop sales quotes for the sales engineers, maintain pricing and inventory lists, and provide Human Resources services.

A senior representative from corporate Human Resources and two of UPI's internal consultants teamed with an external consultant from Performance Resources Organization PRO), to implement PRO's Performance Assessment and Analysis Process™ to identify problems, opportunities and solutions in ISO.   The report provided to the EVP identified overall findings, performance gaps and recommended solutions. At the end of the presentation, the EVP agreed to fund an intense improvement effort, including sales training and restructuring of the ISO incentive pay plan which was no longer competitive in the changing markets. Funding was also made available to use PRO and their ROI Process™ to design and implement a comprehensive evaluation system to determine business impact and return on investment. The EVP was particularly interested in the contribution of the training.

 A business objective was established to improve three business measures. Measures to be tracked were identified as sales, monthly closing ratios, and customer satisfaction. Since measurement is an inherent component of PRO's process, the methods and timing were designed and put in place. Base line data was collected from UPI's performance records.

Designing and Implementing the Solutions

The HR department worked with the design team to design and implement a more appropriate and competitive incentive plan. This new incentive plan was designed following a review of several models and an analysis of application to UPI's markets. The plan was approved and scheduled for implementation in June.

The second solution, addressing the skill and knowledge needs within the sales force, was more difficult to design and implement. Client workload, time constraints, and the scattered locations of the sales engineers was an impediment to implementing traditional instructor led training. Electronic learning methods were considered a viable alternative. A plus for this delivery method at ISO is that all sales engineers had electronic on-line and CD capabilities at their laptop computers. Another plus is the flexibility of the electronic delivery method allowed it to be available at anytime of the day. This flexibility is attractive to participants who are compensated principally through incentive pay and desire to spend their available time making customer contacts. The decision was made that the 117 sales engineers and 8 sales managers would receive an electronically delivered interactive sales training process to improve their skills and effectively achieve the business objectives. During the performance analysis, it was discovered that the corporate HR group had identified sales competencies from a previous project and had already begun developing a curriculum. Much of this in-work product served as an important input for the new initiative and greatly assisted the on-time completion of the project.

The design called for a more focused training effort, paying specific attention to the sales relationships engaged in by sales engineers and allowing for significant practice of the required skills. The training had to present numerous job scenarios and challenges being encountered in the market place. The EVP of International Sales assigned the training project to the Manager of Sales Training. She established a project team to provide the coordination, design and development of this project.

Several modules were developed with the support of corporate professionals including, technical writers, learning technology specialists, graphic designers, information technology specialists, and consultants. The team consisted of five full time employees and four external training consultants. Given a very short time frame for completion (management allowed a few months to design and implement the program), work began immediately to develop focused training based on the desired business impact (the business objectives), job performance competencies and field sales encounters.

Several members of the design team were concerned that traditional face-to-face learning methods could not be replaced by an interactive electronic program. The learning technology specialists addressed these concerns and field testing established the electronic technology design as a success in achieving learning goals. The electronic training process that was developed for the sales engineers became known affectionately as the TLC Program, the Technology Learning Competency Program. Following design completion, it was implemented in June and July, shortly after the new incentive plan was implemented.

Measurement Methods and Data Analysis

Measures to evaluate the effectiveness of a program can be designed and tracked through five distinct levels as shown in **Table 1**.

Level and Type of Measure	Measurement Focus
Level 1. Reaction/Planned Action	Measures participant satisfaction and captures planned actions.
Level 2. Learning	Measures changes in knowledge, skills, and attitudes.
Level 3. Job Application	Measures changes in on-the-job behavior.
Level 4. Business Results	Measures changes in business impact variables.
Level 5. Return on Investment	Compares program benefits to the costs.

Table 1. Five Levels of Data

In addition to the five levels of data illustrated above, intangible benefits are reported on important outcomes that cannot be converted to monetary values.

The executive vice president of international sales requested that the return on investment (level 5) be calculated for this program, due to the high cost and potential business impact of the TLC Program. Therefore, it was necessary to gather and analyze data at the five levels plus any intangible benefits.

The Technology Learning Competency Program (TLC)

The TLC Program is an interactive self-paced learning process that is designed to assess current skill level and needs of the sales engineer. Each module is designed to build on a specific set of UPI sales skills (i.e. client partnerships, product pricing and contracting, selling more profitable products, uncovering objections, handling objections, defining product features as unique benefits for the customer, expanding existing contracts, handling dissatisfied customers, building community awareness of UPI, and UPI product awareness/knowledge).

The TLC Program is designed to allow the participant to respond to various sales relationship scenarios and determine the appropriate decision to move closer to a sale. Each decision made by the engineer activates another scenario that allows additional choices or decisions to be made. The program continues on a pre-determined path initiated by the engineer until a string of choices confirm the responses as appropriate or the decision is redirected. Video of a subject matter expert provides analysis of decision

choices and helpful suggestions. This takes maximum advantage of learning opportunities presented when a participant works through the program. The engineer experiences real world issues and situations, has the help of an expert, and is able to learn from mistakes in a non-threatening manner.

A pre-test at the beginning of each module is used to determine the skill areas that need improvement and to load the appropriate learning modules. All of the 117 sales engineers are pre-tested to establish a baseline. The program then links participants to recommended modules that will address their skill gaps. Each engineer is allowed a two-month window to complete the required electronic training either during or after hours as their schedule allows. So that they could be more effective coaches, the 8 managers completed all modules plus a coaching module.

The TLC Program contains a programmed mechanism that captures the results from the various decision paths chosen by the participant. After each learning module, an individual report is generated which highlights the learning achievement and the decisions made by the engineer. This report is provided to each participant and his or her manager for discussion in the follow-up coaching session. This provides additional learning opportunities and a means for recognition and feedback. Sales engineers are asked to schedule the follow-up planning and coaching meeting with their managers within two weeks of their TLC Program implementation.

DATA COLLECTION PLAN

Program: _____ **Responsibility:**_____

Date:_____

Level	Objective(s)	Measures/Data	Data Collection Method	Data Sources	Timing	Responsibilities
1	**Reaction/Satisfaction**					
2	**Learning**					
3	**Application/Implementation**					
4	**Business Impact**					
5	**ROI**	*Comments:* _____ _____ _____ _____				

Level One and Two Data

Level one data was captured through an on-line feedback questionnaire that assessed course content, usefulness of the TLC Program and job applicability. Participants rated questions on a Likert type scale from 1-7. Participant average for the overall course content was 6.6 and overall usefulness of the system was 6.5. Applicability of the course to the job was rated 6.8.   Level 1 data is consolidated in the first three columns of **Table 2**.

Level 2 data was assessed using pre/post testing. The pre/post testing for TLC was designed based on job performance expectations. Subject matter experts (SME's) determined the testing components which were then validated by sales managers. The SME's , working with the program designers, validated program content based on competency requirements and skill gaps of the sales organization. They also provided input to design pre/post tests. Pre-tests were administered electronically on-line at the beginning of each learning module to determine individual knowledge and skill gaps. The results showed that participants averaged a 50% knowledge level on the pre-test and averaged a 91% knowledge level on the post-test. This Level 2 data is consolidated in the last two columns of **Table 2**.

Reaction: Overall Course	Reaction: Overall Usefulness of TLC	Reaction: Job Applicability	Learning: Pre-test Overall Score	Learning: Post-test Overall Score
6.6	6.5	6.8	50%	91%

Table 2. Reaction and Learning Results -1 to7 Scale

Level Three and Four Data

Level 3 (application of skills) included three components to evaluate results, (1) follow up planning and coaching sessions between sales engineers and sales managers, (2) self assessment of skill application using a follow-up questionnaire, and (3) managers' assessment of skill application using a follow-up questionnaire.

Engineers completed follow-up planning and discussion meetings with their respective managers within two weeks of completing the TLC Program. A plan including goals and expectations was created as a result of this discussion. In order to allow appropriate time for evaluation and application of skills it was imperative for managers to have these planning and coaching sessions as close to the end of the training as possible. The sessions occurred during July and August and averaged two hours in length. Due to the dispersed locations of the engineers and managers, some of these meetings were conducted face-to-face and some by telephone or video conference.

Customer satisfaction scores were monitored from quarterly surveys and sales performance was monitored by reviewing monthly sales records and closing records.

DATA COLLECTION PLAN – UNITED PETROLEUM INTERNATIONAL

Program: *Technology Learning Competency Program (TLC)* **Responsibility**:_____ **Date**:_____

Level	Objective(s)	Measures/Data	Data Collection Method	Data Sources	Timing	Responsibilities
Level I Reaction and Satisfaction	*Employee positive reaction to:* • *appropriateness of the technology delivery program* • *usefulness of the TLC* • *TLC application to the job*	• *participants perception and attitude*	• *on-line questionnaire*	• *participant*	• *end of each segment (3-5 modules)* • *end of program*	• *program coordinator*
Level II Learning	• • *Module learning assignments based on knowledge/skill gaps:* • *client partnerships* • *product pricing & contracting* • *identification & handling Objections*	A. *skill gaps identified* B. *learning occurs as gaps closed through each module implemented*	A. *online pre-test questionnaire on all modules* B. *on-line post-test by module*	• *participant*	A. *prior to training to establish base line.* A. *prior to each module as required* B. *at end of each module*	• *program coordinator*
Level III Application & Implementation	1. *review post-course report and participate in follow-up planning meeting with manager* 2. *application of skills to achieve business goals*	1. *goals set and achieved* 2. *skills applied in sales planning and sales situations*	1. *and 2. follow-up questionnaire*	1. *and 2. Participants* 1. *and 2. Managers*	1. *Coaching and planning session within two weeks of TLC* 1. *and 2. Follow-up questionnaire four months after TLC*	• *program coordinator initiate follow-up* • *manager and participant initiate planning and*
Level IV Business Impact	1. *improved closing ratio* 2. *increased revenue* 3. *customer satisfaction*	1. *increase in monthly closes* 2. *increase in profit margin* 3. *customer satisfaction index*	1. *performance monitoring* 2. *performance monitoring* 3. *customer survey (existing)*	1. *sales record – marketing* 2. *sales record – marketing* 3. *customers quarterly survey*	1. *monthly* 2. *monthly* 3. *quarterly*	• *program coordinator*
Level V ROI	*Due to the strict requirement on development costs (see comments) an ROI at 20% will be acceptable.*	**Comments:** *Since training will be completed for all current engineers within first year of roll-out, management desires to achieve a return on investment during the first year. Therefore, development costs will not be pro-rated over the life of the program as is customary.*				

ROI Analysis Plan

Program:_____ **Responsibility**:_____

Date:_____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the TLC Program	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments

The follow-up questionnaire was developed during the program design phase and field-tested with a random sample of sales engineers and sales managers. On the advice of the sales managers, the questionnaire was administered four months after the completion of the TLC Program. Four months was deemed to be an appropriate timeframe to determine the successful application of skills. A series of questions on the follow-up questionnaire also focused on engineers' progress on the improvement goals established in the follow-up discussions between managers and sales engineers. In addition, sales managers received a follow-up questionnaire focusing on the performance of sales engineers and isolating the effects of the TLC Program.
This performance data was consolidated and documented in the final evaluation report.
A summary of the follow-up questions from the sales engineers' questionnaire is presented in **Figure 1**.

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1. Did you have a follow-up coaching session with your sales manager?
2. Did you complete a follow-up plan and set related goals?
3. How do you rate the quality of the planning and discussion session with your manager?
4. Based on the discussion and planning session you had with your manager, what specific improvement goals have you completed? What improvement goals still need to be completed?
5. How have you and your job changed as a result of participating in TLC?
6. How are you specifically applying what you learned as a result of participating in TLC?
7. What is the impact of these changes for the customer and the ISO organization?
8. Rank (estimate the percentage) the effect each of the following had on any improvement in your sales performance. Allocate from 0 to 100% to the appropriate factors (the total percentage of all items selected must equal 100%):

   TLC Training_____%   Executive management_____%   Market_____%
   Program   Influence   Influences

   New Monetary_____%   Manager Coaching   _____%   Other
   _____%
   Incentives   Sessions   (specify)

9. What barriers (if any) were a deterrent as you applied what you learned?
10. List any skills you did not have an opportunity to apply during the evaluation timeframe?
11. Estimate the total hours you were involved in accessing/completing TLC training during regular company work hours._____hours.

Figure 1. Summary of Follow up Questions

Business impact data (L-4) was monitored in three areas; the quarterly customer satisfaction index scores, monthly sales closing averages, and the profit margin of monthly sales revenue. This data was readily available within the organization and all but customer satisfaction were used in the determination of business impact and return on investment of the TLC Program. Customer satisfaction data was reviewed for

progress, but a standard monetary value did not exist for improvements, thus there was no conversion to a monetary value.

Estimates - Isolating the Effects

In order to assess the level 4 and 5 data accurately, it was imperative that the various influences on any improvement in sales performance be isolated.   To isolate the effects of how each factor influenced sales (i.e. TLC training, the new incentive plan, market changes, management influence, etc.), each had to be assessed by a credible source. The influence of each factor was determined by using participant and manager estimates regarding each factor. The data was gathered from the participants in the level 3/4 follow up questionnaire and from the managers in a separate follow-up questionnaire. The consolidated data is reported in **Table 3**.

Influencing Factor	*Sales Engineers* Average from 104 Respondents	*Sales Managers* Average From 8 Respondents
New Incentive Plan	35%	37%
TLC Training Program	38%	36%
Executive Management Influence	8%	6%
Coaching by Sales Manager	16%	18%
Other (market changes, new products, product improvements, etc.)	3%	3%

Table 3. Participant/Manager Estimates of Influence on Sales

Design and Implementation Costs

The development costs of $354,500 for this project included the salaries for development time of one project manager, five full time employees, and four contract consultants. The costs associated with time spent in meetings and interviews with executive management, senior sales staff, and subject matter experts are also included. This included the time of the interviewer as well as the people being interviewed. The cost of travel, meals, and lodging during development was also included.

The material costs of $68,500 included a comprehensive workbook for participants, distribution of tutorial CD's, and some additional dial up networking software.

The equipment cost of $91,000 included upgrades (systems, processors, and video/graphics capability) to the specified hardware setup. This cost category also included the purchase of several new laptops for the sales engineers, digital editing equipment for editing the video and graphics in each module, and two platform servers capable of handling the multi-operational usage.

Eight subject matter experts were assigned to the project. These eight lead sales engineers were paid their average on sales ($150 per day) for the 18 days each spent on the module designs, video shoots and other project duties. Opportunity costs (lost sales) were not an issue since ISO management felt the lead sales engineers would maintain their average sales throughout the year even though they had to provide time to this project.

The analysis and evaluation costs of $71,000 included all costs associated with the initial performance analysis and evaluation process (i.e., employee time during interviews and questionnaires). This cost category also included the use of an outside consulting firm (Performance Resources Organization) to plan and implement the performance analysis and evaluation methodology for this project.

All of the 117 sales engineers reported completing all modules during their personal time. Since they were compensated mostly by commissions, they usually spent their work hours conducting sales planning and call activities.

Level Three and Four Results

The results of the initiative were very encouraging. Prior year sales records revealed that sales engineer's overall performance showed an average of 14 closes per month at $980 profit margin per close. Six months following the implementation of TLC, the engineers averaged 16.65 closes per month at $1,350 profit margin per close. From the previous year, this was an average increase of 2.65 closes per month and an additional $370 profit margin on revenue.

The design team decided to use PRO's conservative process when calculating the ROI based on revenue generated from new or increased closes. This decision helped to enhance the credibility of the data since participant and manager estimates were the only methods used to isolate the impact of training. Only the profit margin portion of the revenue increase attributable to the training (TLC) was used as a basis for the ROI calculation.

ROI ANALYSIS PLAN – UNITED PETROLEUM INTERNATIONAL

Program: _Technology Learning Competency Program (TLC)_   **Responsibility:** _Ron Stone_   **Date:** _1999_

Data Items (Usually Level 4)	Methods for Isolating the Effects of the TLC Program	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments
Closes per month	• _participant estimates_ • _manager_	_n/a captured in monthly revenue below_	• _development costs_ • _materials and software_ • _equipment_ • _time of subject matter experts_ • _salaries and benefits during training (while on company time)_ • _analysis and evaluation costs_	• _recruiting tool_ • _increase in employee satisfaction_ • _improved partnership and communication between manager and sales engineer_	• _sales engineers_ • _leadership of sales organization_ • _UPI executive management_	• _customers may not be able to identify if or how "engineer skills" impact their satisfaction_ • _influence of other factors on the three measures_ • _quality of coaching/ expectations session_ • _short time frame inhibited ability to field test the TLC modules_	• _must capture % of time that training occurs on company time._
Monthly revenue	• _participant estimates_ • _manager estimates_	_profit margin of revenue_					
Customer satisfaction index	• _customer estimates_	_executive management estimate_					

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The level 5 data was calculated by comparing the cost versus the net benefits attributable to the TLC implementation. The benefit attributed to the use of TLC for improvement was considered to be 37% based on the combined participant and manager estimates. The consolidation of this data is reported in **Table 4**.

Influencing Factor	Sales Engineers Average from 104 Respondents	Sales Managers Average From 8 Respondents	Combined Average
New Incentive Plan	35%	37%	*36%*
TLC Training Program	38%	36%	*37%*
Executive Management Influence	8%	6%	*7%*
Coaching by Sales Manager	16%	18%	*17%*
Other (market changes, new products, product improvements, etc.)	3%	3%	*3%*

Table 4. Consolidated Estimates - Isolating the Effects

The benefits, except for improved customer satisfaction, were then converted to a monetary value and a return on investment was calculated. Customer satisfaction improvements and other data that could not be converted to monetary values were captured as intangible benefits. The ROI is calculated as follows:

$$\text{ROI (\%)} = \frac{\text{Benefits - Costs}}{\text{Costs}} \times 100 = \underline{\qquad}\%$$

Program Costs

The fully loaded costs for the TLC Program are represented in **Table 5**.

velopment Costs	54,500
terials/Software	68,500
uipment	91,000
E Time (Commission paid to expert Sales Engineers for lost mmission opportunity) 8 people @ $150 p/day times 18 days	21,600
alysis and Evaluation Costs	71,000
TAL	**06,600.00**

Table 5. Implementation Costs

Since no sales were occurring for SME's during the 18 project days, the commission payments may represent a cost to the sales bottom line. The management team felt the lead sales engineers would be able to maintain their average sales throughout the year even with their involvement in this project. Therefore, they did not feel that lost sales should be included as an opportunity cost. Salaries & benefits and opportunity costs for the "actual training time" are not included in the calculations because none of the 104 sales engineers reported implementing the TLC training during normal company work hours.

ROI Results

Since no sales were occurring for SME's during the 18 project days, the commission payments must be considered a cost to the sales bottom line. The management team felt the lead sales engineers would be able to maintain their average sales throughout the year even when placed on this project. Therefore, they did not feel that additional lost sales should be included as an opportunity cost. Salaries/benefits and opportunity costs for the "actual training time" are not included in the calculations because none of the 104 sales engineers reported accessing the TLC training during normal company work hours.

Monitoring the performance records revealed the total increase in sales due to all influencing factors was $5,022,810. There was an average of 2.65 additional closes per month (16.65 - 14.0). However, based on the participant and manager estimates, only 37% of this increase in sales was influenced by the TLC Program. The conservative adjustment of benefits resulting from the TLC training is a factor of 0.98 additional closes per month (2.65 X 0.37). This resulted in an average of $1,323 profit margin per close ($1,350 X 0.98). Multiplied by   12 months and 117 engineers to annualize, this produced $1,857,492 in monetary benefits attributable to TLC.

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- 2.65 closes X 0.37 = 0.98 factor for additional closes due to TLC Program
- 0.98 X $1,350 per close = $1,323
- $1,323 X 12 months = $15,876 X 117 sales engineers = $1,857,492

The total cost of the TLC Training Program was $606,600.00. After rounding the benefits from the program, the ROI for the TLC Program is calculated as follows:

$$ROI (\%) = \frac{\$1,857,000 - \$606,600}{\$606,600} \times 100 = 206\%$$

In addition to the impact of the TLC training, participants and managers reported the new incentive plan implemented in June had influenced an increase in sales by 36% or $1,808,000.

Intangible Benefits

The results from quarterly customer satisfaction surveys were used to compare the previous year to the current year. Positive improvements and trends were identified. This data was not converted to a monetary value because management had no standard monetary value for an increase in customer satisfaction. It was also difficult to determine how much the skills/behavior from the training actually influenced the improvement in customer satisfaction. Data to isolate and substantiate this would need to come directly from customers, since many factors could influence their satisfaction level. When using estimates, only they are likely to know the extent of such influences. However, executive management felt the customer satisfaction scores were a good indicator of how the organization was responding to the market.

The Customer satisfaction scores showed an average improvement of 23% over the previous year. Sales engineers and sales managers reported additional intangible benefits such as; increased job satisfaction, better understanding of expectations, reduced turnover, and increased recruiting effectiveness of future sales engineers.

Learning Issues From the Study

This program demonstrated very favorable results. The results can be attributed to several things; a comprehensive front-end analysis process that accurately identified the appropriate gaps and solutions, the support of corporate HR, the support of executive

management, and the sales organization providing the resources and clarification of expected outcomes prior to designing this initiative.

A major learning issue was the difficulty in the quick mustering and efficient utilization of resources to achieve the target within the short deadline. Executive management expected the program to be implemented within a few months because the competitive environment and need for improved skills was having a negative impact on sales. This created little time to conduct a pilot program. Also, there was not enough time to create all of the modules needed for the full range of competency and skill needs of the sales organization. The most salient competencies were targeted and given development priority.

The need to more accurately isolate the effects of this initiative is another learning issue. Several factors influenced the results. Although participant estimates can be very effective (they know what influences their performance) additional methods like a control group arrangement, or trend line analysis can often isolate the impact more convincingly.

Reporting to Stakeholder Groups

The target population for this initiative included four groups: the sales engineers, the leaders of the sales organization, the subject matter experts, and the executive management team of UPI. All played a critical role in the success of the TLC Program. All were provided a final report showing the results from the impact study.

The primary group was the 117 sales engineers who actually participated in the TLC Program. They were the most instrumental of the groups in creating the success enjoyed by TLC. They dedicated the time to the system and took full advantage of the opportunity to improve performance based on what they learned from the technology supported training. They also provided tremendous constructive feedback to enhance the system for future engineers.

The second group consists of the leaders of the sales organization who were responsible and accountable for the success of sales at UPI. Ten people, including one executive vice president, one director, and eight sales managers were key factors in the success. They supported the up-front analysis and the validation of the job skills and gaps that were going to be measured. By conducting planning and coaching sessions with sales engineers and discussing expectations, they were essential factors in the transfer and application of skills back on the job.

The third group was the SME's who provided timely and accurate feedback on each module being developed, and the corporate professionals and consultants who demonstrated diligence and expertise. On frequent occasions, they worked beyond normal work hours to keep the project on track.

The fourth group was the members of the executive management team of UPI who funded the project and showed interest in the entire training process. The executive management team supported the project by allocating the necessary resources, and setting the expectations for outcomes.

Questions for Discussion
1. Identify the influencing factors that contributed to the success of the TLC Program.
2. How would you convince management that a control group arrangement would beneficial to the study?
3. What recommendation would you make to management to convert customer satisfaction improvement to a monetary value?
4. How credible are the estimates in this evaluation?
5. How credible is this study?