



*Resource Allocation Project for  
UUNET Technologies' Finance Department's  
1998 Training Budget*

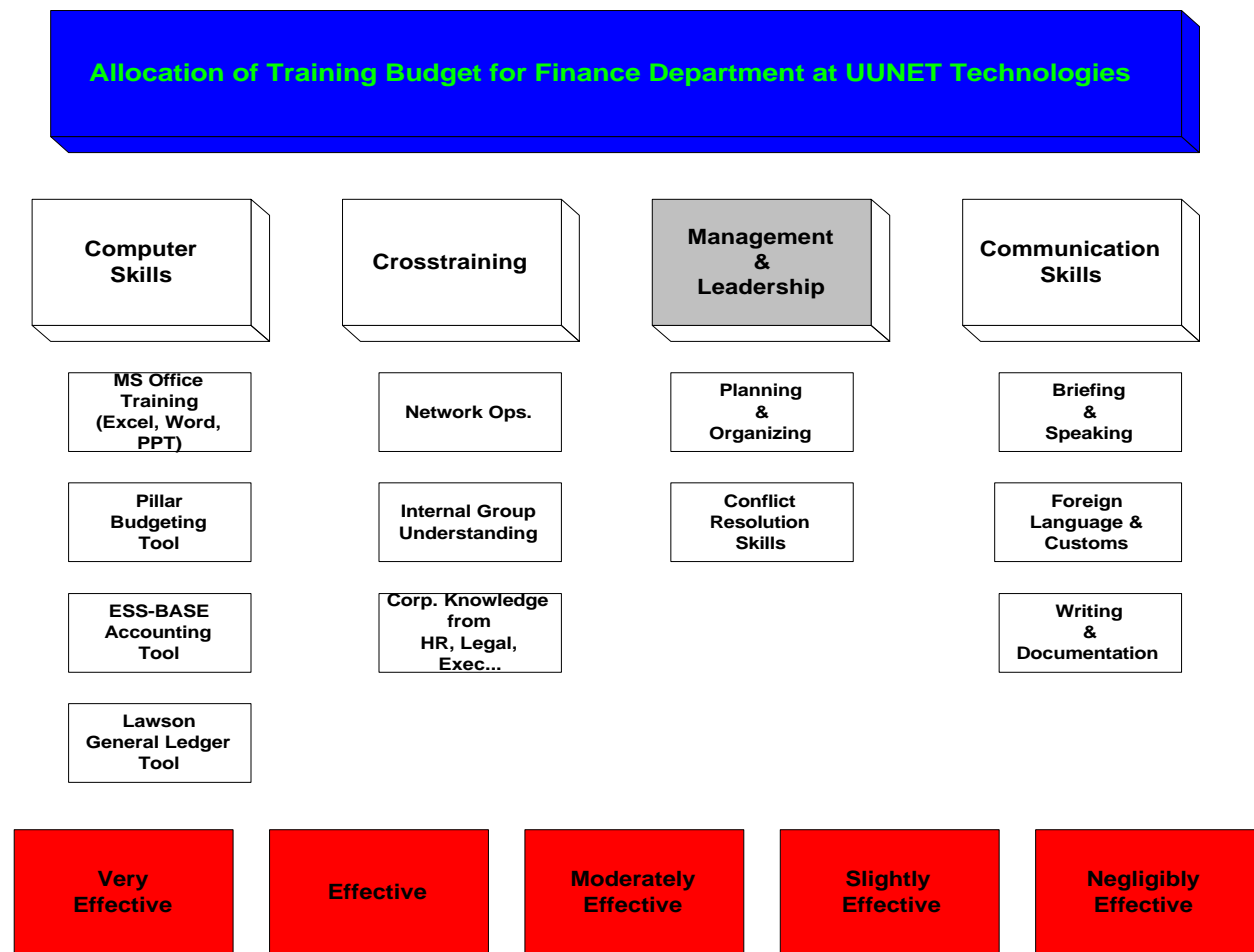
**Executive Decision Making  
MGT 224 Section 10**

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## ABSTRACT

UUNET Technologies, out of Fairfax, Virginia, is one of the world's leading Internet Service Providers (ISP). Like any large organization, training personnel is a necessary expenditure if you expect your corporation to perform in a competitive marketplace. For the upcoming fiscal year, UUNET's Finance department has been allocated \$100,000 to provide inter-departmental training. This training is needed to support the staff in their desire to effectively and efficiently perform their daily operations. Training will also reward the staff with an opportunity to keep up-to date on matters which impact their jobs. In looking at training, the Finance team wishes to spend this \$100,000 wisely to ensure that UUNET gets the maximum return for the money spent. The following model highlights four (4) specific objectives: 1.) Improve employee computer skills, 2.) Provide cross-training with other UUNET departments, 3.) Improve management & leadership skills, and 4.) Improve communications skills. The alternatives evaluated will seek to find the best coverage for all of these demands.



## **Chapter 1:**

### ***Company Background***

UUNET Technologies is headquartered in Fairfax, Virginia. A subsidiary of WorldCom, Inc., UUNET is recognized as the largest Internet Service Provider (ISP) in the world. In contrast to other ISPs, UUNET caters only to the business segment of the market. Operating national networks in the United States, Canada, the UK, Germany, Belgium, the Netherlands, and Luxembourg, UUNET offers reliable services and access speeds from 28.8 Kbps to 45Mbps. UUNET is much more than just an “access” provider, offering a full range of services such as: Web Hosting; Security Solutions; Internet Consulting; Fax Services; and Multicasting.

### ***Current Situation for the UUNET Finance Department***

The finance team was created in October 1995 when Chief Financial Officer Jeff Hilber employed Jeffery Benedict as UUNET’s first full-time senior financial analyst. The finance department currently employs six analysts whose current responsibilities are budgeting, analyzing product margins, strategic planning, and the financial analysis of decisions that have a direct or indirect impact on the profit and loss (P&L) statement. The problem that has arisen is that the team requires specialized training so that it can serve the financial requirements of UUNET’s daily decision making process.

The type of training that the UUNET team is looking for is two fold. The first is to understand how it can, as a group, better serve the financial needs of UUNET. This can be achieved either by the finance staff traveling and interviewing UUNET's technical of other General and Administrative groups or by having these staffs come and interview and understand the capabilities of UUNET's finance group. The second is to properly train the finance department on the newly acquired financial systems. These systems consist of Hyperian Pillar (a budgeting database) Lawson (a general ledger database), ESSBASE ( a report writer), Keenan ( a billing system), and advanced training in Microsoft's office suite. The group has been force to learn these packages by using trial and error methodology which has reduced the overall efficiencies of the group. Having the proper training will help the group understand its newly acquired financial database systems and how to extract data from it in order to service the needs of UUNET.

Now that the finance team has be successful, UUNET has committed \$100,000 to support the groups management information systems training that the group needs. The goal of this resource allocation exercise is to provide the proper training to allow the staff to perform their jobs effectively and efficiently. In doing so, training will provide the Finance staff with up-to date information on matters which effect their careers. In looking at allocating these resources, UUNET wishes to utilize prudent judgment to ensure that the team gets the highest return on the \$100,000 investment.

## ***The Process:***

In order to provide UUNET with a competitive advantage a systematic approach will be utilized to ensure soundness of the recommendations. The outline of this process includes the following steps:

- 1. Identify/design alternatives*
- 2. Identify and structure the organization's goals and objectives*
- 3. Prioritize the objectives and sub-objectives*
- 4. Measure each alternative's contribution to each of the lowest level sub-objectives*
- 5. Find the best combination of alternatives, subject to environmental and organizational constraints*

## **Identify the Goal**

Out of this methodology, UUNET's specific goals were uncovered. They include some items mentioned earlier:

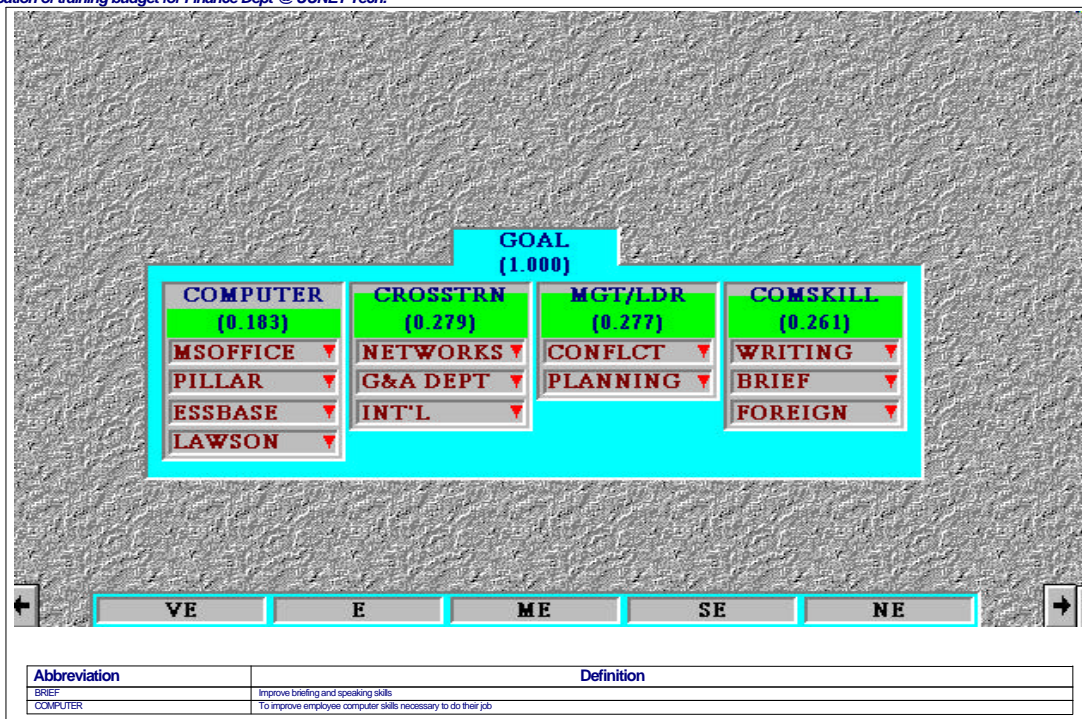
- 1. To train staff to carry out their present responsibilities effectively and efficiently*
- 2. To allow the staff an opportunity to keep up-to date on matters which affect them*
- 3. To spend the training budget prudently to ensure maximum returns*

These goals, and the objectives to follow, are the driving forces behind the allocation of resources. In determining what UUNET's goals are, this analysis looked to uncover not only ideals of the finance team, but ideals of the entire corporation.

## Identify the Objectives

All decisions are made on the basis of achieving specific objectives. A resource decision, like the one being pursued by UUNET's Finance team, must be looked at holistically. What is meant by this is that allocating the training budget effects the entire department, as well as the UUNET corporation. In identifying objectives, sub-objectives also arise which encompass desired activities within the budget allocation process. In evaluating all of these objectives, a true framework of how to allocate these resources will emerge.

Allocation of training budget for Finance Dept @ UUNET Tech.



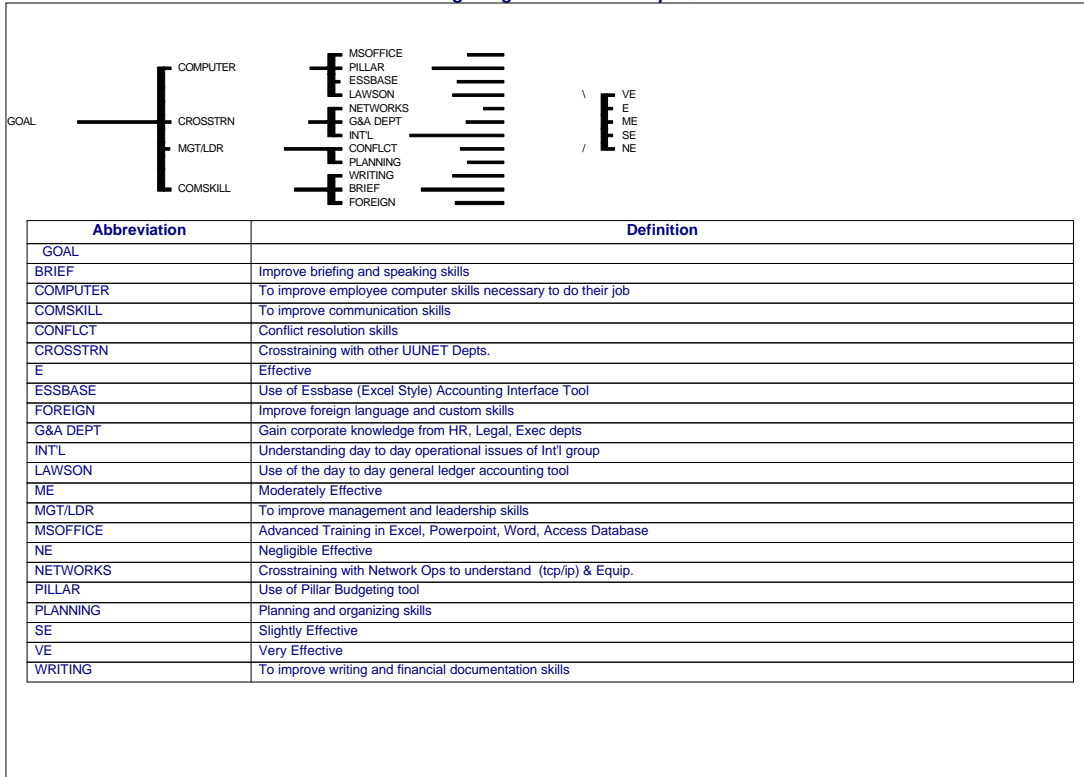
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The following objectives for this resource allocation arose:

1. Improvement of staff computer skills
2. Cross-Training with other UUNET departments
3. Improvement of management and leadership skills
4. Improvement of communication skills

It is important to prioritize these objectives in order to provide support to the actual resource allocation. It would be a big mistake to assume that each objective is equally important. The *pairwise* comparison process allows for a reliable prioritization of these objectives. It was determined that “cross-training”, “communication skills” and “management/leadership skills” were all close to one another in terms of importance(all around .275). “Computer skills” rated about half as strong as these other three objectives. Once the objectives were determined, we worked with the UUNET team in determining the sub-objectives required to satisfy the objectives and ultimately the goal.

**Allocation of training budget for Finance Dept @ UUNET Tech.**

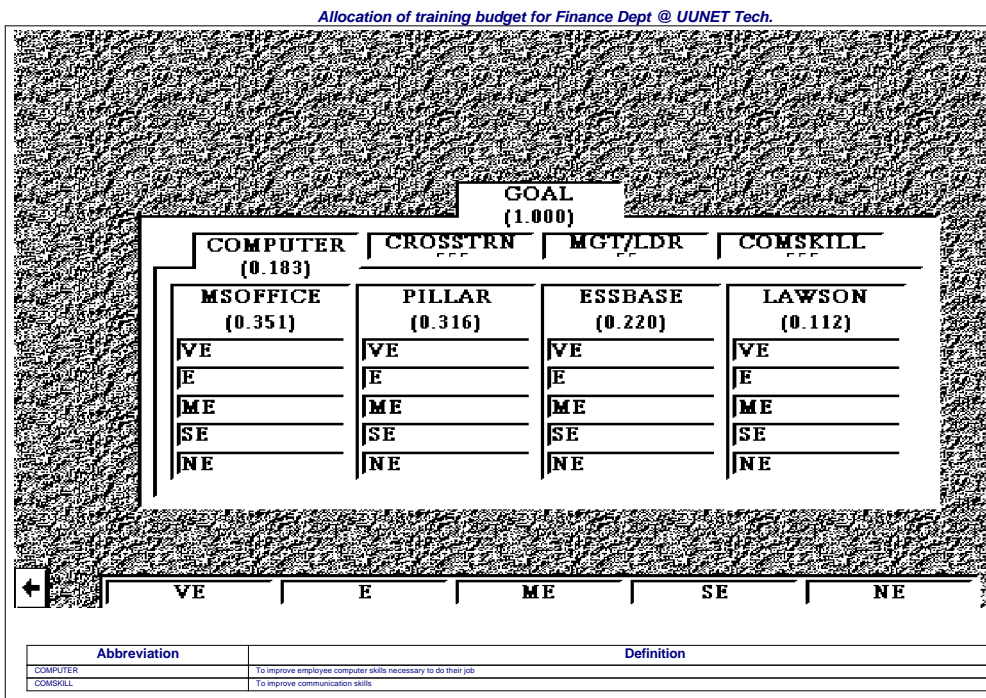


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The UUNET staff has \$100,000 that they wish to spend rationally in order to gain the highest return from this investment in their people. The priorities which arose from the *pairwise* process provide valuable detail which will help drive the best allocation of these resources.

**Identify the Alternative**

The next step in the process involves the training alternatives available to UUNET. Through the *ratings* approach, proposed activities can be evaluated to see how they will contribute to the lowest level sub-objectives.



Thirty-one (31) funding alternatives (see attached) were derived from discussions with the UUNET finance team. These alternatives ranged from different accounting software packages to training classes to various types of training materials (tapes/print). Each has been noted with a



specific cost so as to ensure that the best combination of alternatives is utilized in the resources allocation. Later on in the paper, the outcome of this *ratings* process will be outlined with regards to our recommended funding options for UUNET.

#### Alternatives

1. Pillar Budgeting Application level 1
2. Pillar Budgeting Application-level 2
3. Pillar Budgeting Application-level 3
4. Excel Training Class
5. Power point Training Class
6. Word Training Class
7. Access Database Class
8. Ledger Accounting Software Training-level 1
9. Ledger Accounting Software Training-level 2
10. Ledger Accounting software Training-level 3
11. Essbase Software Training -2 weeks
12. Essbase Software Training -4 weeks
13. Essbase Software Training -6 weeks
14. Have Financial Department reps visit other groups
15. Have HR Department reps briefing FA group
16. Have Legal Department reps briefing FA group
17. Crosstraining (tcp/ip) & equip class-2 hours
18. Crosstraining (tcp/ip) & equip class-4 hours
19. Crosstraining (tcp/ip) & equip class-6 hours
20. Conflict Management Class-Leadership
21. conflict Management Class-Communication
22. Buy Video Tapes—Planning Skills
23. Buy Video Tapes – Organizing Skills
24. Buy Printed Materials--Basic Writing I
25. Buy Printed Materials --Advanced Writing II
26. Third Party Training of briefing and speaking skills:  
One Week
27. Third Party Training of briefing and speaking skills:  
Two Weeks
28. Third Party Training of briefing and speaking skills:  
Three Weeks
29. Foreign language Center: 6 months
30. Foreign language Center: 12 monist
31. Foreign language Center: 18 months

## *Resource Allocations for Implementation Tasks*

The decision makers are burdened with the task of generating a rational system in order to promote the necessary changes in existing processes that resource allocation entails. There are a number of key resource allocation decisions that an organization must investigate:

- *Distinguish and develop various forms of “alternative” projects that are at different levels of operational funding or are distinctly different “alternative” research and development (R&D) proposal.*
- *Classify a standardized organizational objective tree with objectives, sub-objectives, sub-sub-objectives, etc. The various objectives are generated from the organizational goals.*
- *The various objectives must be prioritized in order of importance to the organizational goals*
- *Each alternative project or R&D proposal must be measured against each form of sub-objective.*
- *Use this measurement to help define the optimal combination of alternatives for the organization.*

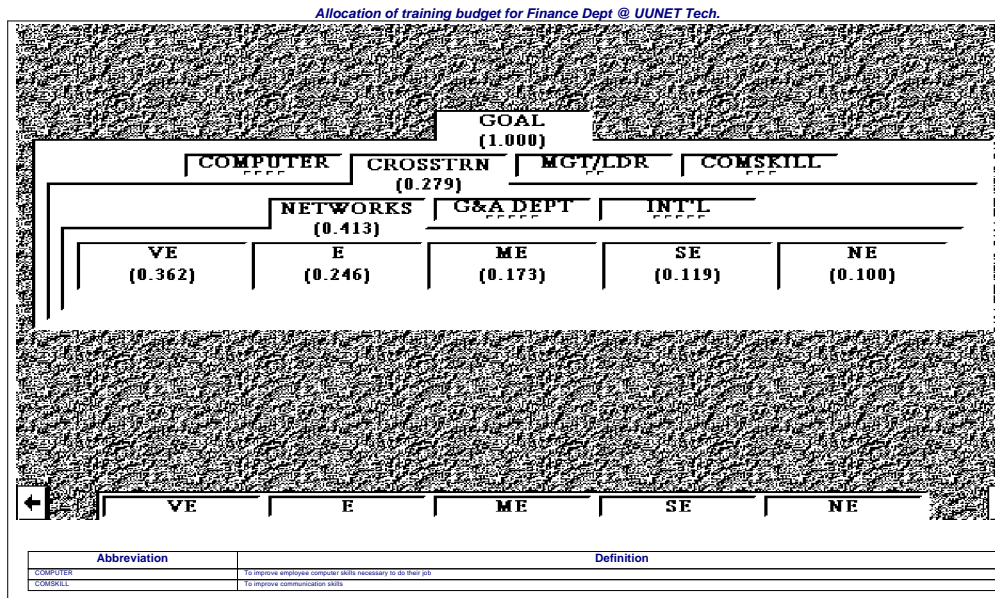
## *Alternatives*

UUNET Technologies defined alternative forms of training for four different objectives: improving computer skills necessary to their job, cross-training with other UUNET Technology departments, to improve management / leadership skills and to improve communication skills. The information regarding level of organizational utilization of alternative software packages is important in improving employee computer skills. Cross-training with other UUNET departments can create efficiencies not previously available. Possibilities include cross-training in areas such as network operations, international operations and corporate knowledge (i.e., human

resources, legal and executive). Management and leadership skills involve important alternatives including conflict resolution skills as well as planning and organizational skills. Lastly, communication skills must be addressed including alternatives such as improving writing and financial documentation skills, briefing and speaking skills and foreign language and custom skills.

### *Improving Computer Skills*

Four alternatives have been identified to improve the computer “fitness” of UUNET Technologies: These are the Microsoft Office software, Pillar Budgeting software tools, Essbase Accounting Interface Tool and Lawson general ledger accounting tool. These areas are all the software packages currently used across the organization that were considered potential training needs.



### *Cross-training with other UUNET departments*

Cross-training with network operations to understand tcp/ip and different types of equipment will optimize efficiencies in both the trained departments and the network operations.

Corporate knowledge cross-training, including human resources, legal department and the executive department, would ease the burden of centralized control in the organization. In addition, international operations could also optimize efficiencies in the organization.

Allocation of training budget for Finance Dept @ UUNET Tech.

<b>GOAL</b> (1.000)				
<b>COMPUTER</b> (0.279)		<b>CROSSTRN</b> (0.279)		<b>MGT/LDR</b>
<b>NETWORKS</b> (0.413)		<b>G&amp;A DEPT</b> (0.260)		<b>INT'L</b> (0.327)
VE	E	ME	SE	NE
VE	E	ME	SE	NE
VE	E	ME	SE	NE
VE	E	ME	SE	NE
VE	E	ME	SE	NE

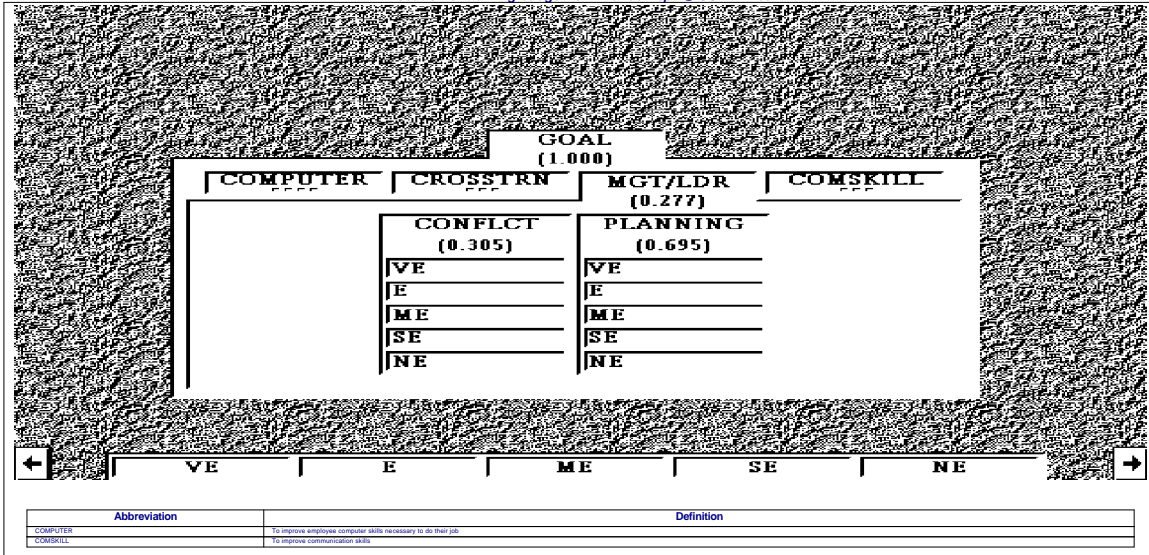
  

←	VE	E	ME	SE	NE	→
<b>Abbreviation</b>						<b>Definition</b>
COMPUTER						To improve employee computer skills necessary to do their job
COMSKILL						To improve communication skills

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### **Management and Leadership Skills**

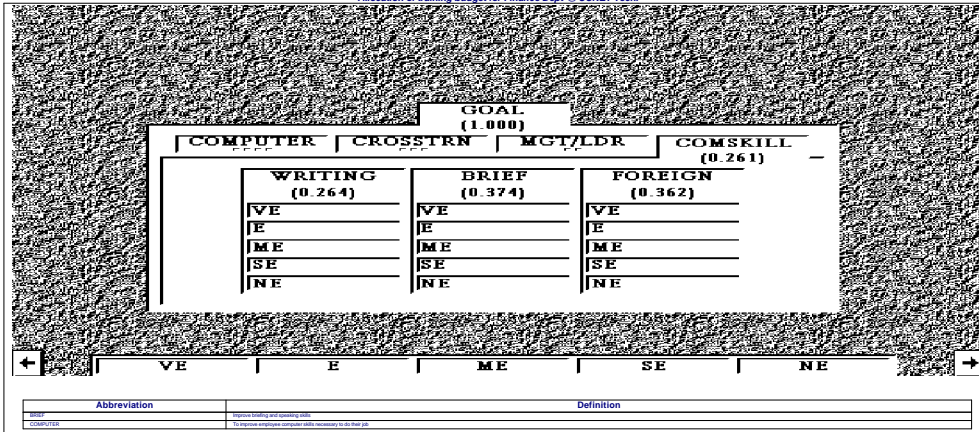
This training would include conflict resolution skills. Conflict resolution can also optimize managerial conflicts. Other leadership skills include planning and organizing skills. These skills, in many cases, would overlap in the computer skill areas.



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## Communication Skills

Writing and financial documentation skills are important in developing the communication skills of the organization's most important assets (employees). Briefing and speaking skills are also important and effective alternatives to communicate inside the organization. UUNET has many foreign business alliances that create a need for foreign language and custom skills. Not all departments would necessarily need this training, depending on whom they contact.



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## Prioritized objectives and sub-objectives

The importance of each objective and sub-objective is crucial to this process of resource allocation. The objectives and sub-objectives should be compared using pairwise comparisons against each other. This pairwise comparison is performed at each level to assess the ranking importance of each (sub)objective. These rankings provide insight into company priorities.

### Allocation of training budget for Finance Dept @ UUNET Tech.

Compare the relative PREFERENCE with respect to: COMPUTER < GOAL

		9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
		1=Slight 3=MODERATE 5=STRONG 7=VERY STRONG 9=EXTREME																	
1	MSOFFICE								2	1									
2	MSOFFICE	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
3	MSOFFICE	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
4	PILLAR	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
5	PILLAR	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
6	ESSBASE	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	

Abbreviation	Definition
Goal	Allocation of training budget for Finance Dept @ UUNET Tech.
COMPUTER	To improve employee computer skills necessary to do their job
MSOFFICE	Advanced Training in Excel, Powerpoint, Word, Access Database
PILLAR	Use of Pillar Budgeting tool
ESSBASE	Use of Essbase (Excel Style) Accounting Interface Tool
LAWSON	Use of the day to day general ledger accounting tool

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## Measuring alternative's allocation to the lowest level of sub-objective

After the priorities have been completed, the process moves toward the actual monetary allocations for each sub-objective. This could not have easily been accomplished in the pairwise comparison approach, so the rankings approach was used. There were a total of 31 alternatives that were measured across 12 alternatives.

## Computer skills

Node: 0

Compare the relative IMPORTANCE with respect to: GOAL <

1	COMPUTER		CROSSTRN
2	COMPUTER		MGT/LDR
3	COMPUTER		COMSKILL
4	CROSSTRN		MGT/LDR
5	CROSSTRN		COMSKILL
6	MGT/LDR		COMSKILL

Abbreviation	Definition
Goal	Allocation of training budget for Finance Dept @ UUNET Tech.
COMPUTER	To improve employee computer skills necessary to do their job
CROSSTRN	Crosstraining with other UUNET Depts.
MGT/LDR	To improve management and leadership skills
COMSKILL	To improve communication skills

COMPUTER	.183	
CROSSTRN	.279	
MGT/LDR	.277	
COMSKILL	.261	

Inconsistency Ratio =0.01

The question that in this section involves what the employee's responsibility's are currently or in a projected timeframe. In all likelihood, use of Microsoft Office including Word, Excel, PowerPoint and Access are used ubiquitously in the organization. These software programs are crucial to almost every employee's daily workload. This aspect must be taken in

consideration in evaluations. Pillar budgeting tool would be crucial to departmental administrators, but not necessarily programmers. Essbase is similar to Excel spreadsheets. Lawson general ledger accounting tool would be used primarily by the finance department. In essence, all employees would not necessarily need improved computer skills in every alternative defined in this objective

### *Analytical Results from Excel*

#### **Allocation of training budget for Finance Dept @ UUNET Tech.**

Synthesis of Leaf Nodes with respect to GOAL  
 Distributive Mode  
 OVERALL INCONSISTENCY INDEX = 0.01

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
CROSSSTRN=.279				
	NETWORKS=.115			
		VE =.042		
		E =.028		
		ME =.020		
		SE =.014		
		NE =.012		
	INTL =.091			
		VE =.033		
		E =.022		
		ME =.016		
		SE =.011		
		NE =.009		
	G&A DEPT=.072			
		VE =.026		
		E =.018		
		ME =.013		
		SE =.009		
		NE =.007		
MGT/LDR =.277				
	PLANNING=.192			
		VE =.070		
		E =.047		
		ME =.033		
		SE =.023		
		NE =.019		
	CONFLCT =.084			
		VE =.030		
		E =.021		
		ME =.015		
		SE =.010		
		NE =.008		
COMSKILL=.261				

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According to the report from Excel (see below), the best alternative for the decision-maker is the Excel Training Class which has the highest priority ratio (0.073). The next



alternatives are to “have financial department representative visit other groups” and have Human Resource department representative briefing FA group.

Alternatives	PRIORITY	COSTS
Pillar Budgeting Application level 1	0.018	8,000
Pillar Budgeting Application-level 2	0.028	9,000
Pillar Budgeting Application-level 3	0.036	10,000
<b>Excel Training Class</b>	<b>0.073</b>	9,000
Power point Training Class	0.059	8,000
Word Training Class	0.015	5,000
Access Database Class	0.06	7,000
Ledger Accounting Software Training-level 1	0.008	8,000
Ledger Accounting Software Training-level 2	0.011	9,000
Ledger Accounting software Training-level 3	0.017	10,500
Essbase Software Training -2 weeks	0.008	7,000
Essbase Software Training -4 weeks	0.011	8,900
Essbase Software Training -6 weeks	0.016	12,000
<b>Have Financial Department reps visit other groups</b>	<b>0.062</b>	3,500
<b>Have HR Department reps briefing FA group</b>	<b>0.062</b>	3,500
Have Legal Department reps briefing FA group	0.043	3,500
Crosstraining (tcp/ip) & equip class-2 hours	0.024	7,900
Crosstraining (tcp/ip) & equip class-4 hours	0.037	8,900
Crosstraining (tcp/ip) & equip class-6 hours	0.054	11,000
Conflict Management Class-Leadership	0.026	6,000
Conflict Management Class-Communication	0.03	6,000
Buy Video Tapes--Planning Skills	0.026	4,000
Buy Video Tapes – Organizing Skills	0.045	4,500
Buy Printed Materials--Basic Writing I	0.024	6,000
Buy Printed Materials –Advanced Writing II	0.027	6,000
Third Party Training of briefing and speaking skills: One Week	0.025	12,000
Third Party Training of briefing and speaking skills: Two Weeks	0.03	24,000
Third Party Training of briefing and speaking skills: Three Weeks	0.037	36,000
Foreign language Center: 6 months	0.023	8,000
Foreign language Center: 12 months	0.029	12,400
Foreign language Center: 18 months	0.038	14,000

We can also determine the optimal alternatives for the decision makers to allocate the budget by using the solve function from Excel . The available funding is equal to one of the values in the cumulative cost column of the sorted priority display.

Alternatives	PRIORITY	COSTS	DVs
Pillar Budgeting Application level 1	0.018	8,000	0.00
Pillar Budgeting Application-level 2	0.028	9,000	1.00
Pillar Budgeting Application-level 3	0.036	10,000	0.00
Excel Training Class	0.073	9,000	1.00
Power point Training Class	0.059	8,000	1.00
Word Training Class	0.015	5,000	0.00
Access Database Class	0.06	7,000	1.00
Ledger Accounting Software Training-level 1	0.008	8,000	0.00
Ledger Accounting Software Training-level 2	0.011	9,000	0.00
Ledger Accounting software Training-level 3	0.017	10,500	0.00
Essbase Software Training -2 weeks	0.008	7,000	0.00
Essbase Software Training -4 weeks	0.011	8,900	0.00
Essbase Software Training -6 weeks	0.016	12,000	0.00
Have Financial Department reps visit other groups	0.062	3,500	1.00
Have HR Department reps briefing FA group	0.062	3,500	1.00
Have Legal Department reps briefing FA group	0.043	3,500	1.00
Crosstraining (tcp/ip) & equip class-2 hours	0.024	7,900	0.00
Crosstraining (tcp/ip) & equip class-4 hours	0.037	8,900	0.00
Crosstraining (tcp/ip) & equip class-6 hours	0.054	11,000	1.00
Conflict Management Class-Leadership	0.026	6,000	1.00
Conflict Management Class-Communication	0.03	6,000	1.00
Buy Video Tapes--Planning Skills	0.026	4,000	1.00
Buy Video Tapes -- Organizing Skills	0.045	4,500	1.00
Buy Printed Materials--Basic Writing I	0.024	6,000	1.00
Buy Printed Materials --Advanced Writing II	0.027	6,000	1.00
Third Party Training of briefing and speaking skills: One Week	0.025	12,000	0.00
Third Party Training of briefing and speaking skills: Two Weeks	0.03	24,000	0.00
Third Party Training of briefing and speaking skills: Three Weeks	0.037	36,000	0.00
Foreign language Center: 6 months	0.023	8,000	1.00
Foreign language Center: 12 months	0.029	12,400	0.00
Foreign language Center: 18 months	0.038	14,000	0.00

### *Evaluating Training Effectiveness*

A process of deliberation and pairwise comparisons developed the priorities of objectives.

Since the cross-training of departments effectively reduces the need for measurable expenses, it

was prioritized the heaviest out of the four objectives. The staff time presently needed to provide services from UUNET Technologies network operations, human resources, executive departments and international operations can be reduced significantly with cross-training.

The next most important objective comes from the top and moves downwards through the organization. This objective is training management and leadership skills. The management at UUNET Technologies could use training to develop effective strategies to produce the most out their staff. The leaders of any organization always need to have a unified vision, and this training could serve as the launching pad to focus this vision. Communication skills including writing, briefing and foreign language / customs was the third most important objective as rated. Communication is important to create an efficient process inside the organization. Without this efficient process, the organizational machine could stall. In addition, communication skills are crucial to UUNET Technologies in correspondence with their customers and business alliances.

Last, but certainly not least, are the computer skills that UUNET Technologies will train their employees in. These skills are very important, but often the employees already have this computer knowledge, especially when working for a technology organization such as UUNET. In cases such as upgrades to the software, training might be required.

## ***Conclusion***

The Analytic Hierarchy Process provided the UUNET decision makers a structured platform from which they were able to understand the cost benefit ratios and allocate their

resources to highest benefit accordingly. The use of AHP to allocate resources from the 1998 training budget opened the UUNET finance department's eyes to the reality that there many different scenarios that can be explored when selecting the appropriate training classes. Ultimately, the reaction was one of surprise as to the number of items, which needed to be evaluated in making this decision. Never before had objectives and sub-objective been so clearly defined in the beginning of the decision making process. The decision makers found that this prevented them from deviating away from the goal of the decisions. The team is confident that AHP has aided this company in efficiently allocating its 1998 training budget.