

Corporate Training Dynamics Supplement

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This document contains the list of parameter values we used as the baseline. It also provides a diagram of the model modules.

1. Baseline Values for Constant Variables

We ran the simulation runs as changes to the following baseline, which mimics the reference modes. We list variables by module. Appendix A provides a diagram that illustrates the relationship between the modules.

Variables	Value	Units	Module	Comments
normal time spent advertising	24	hour/month	advertising	
maximum time allocated to advertising	40	hour/month	advertising	
normal fraction converted from advertising	0.1	Fraction/month	advertising	
target advertising audience	1000	person	advertising	
Fraction of courses needing updates per year	0.25	Fraction/year	courses	
Initial courses	4	course	courses	
Initial number of courses to complete	1	course	courses	
new course effect factor	0.15	Dmnl	courses	Effect of adding a new course on “number of courses people take to complete their training”
normal course development rate	0.35	course/month	courses	Historical value = 4 per year
normal time needed to update a course per month	30	hour/course	courses	
Course retirement rate	0.0015	Fraction/month	courses	Few courses retired
sensitivity of course updating effect	0	Dmnl	courses	According to clients, this is a minor effect
time to create courses per course	60	hour/course	courses	
average number of instructors per session	2	person/session	instructors	Close to historical value
CVA Lead time spent training participants	38	hour/(month*person)	instructors	Historical value
hours needed to conduct instructor training	2	hour/month/person	instructors	
sensitivity of instructor training effect	1	Dmnl	instructors	
yearly instructor turnover fraction	0.7	Fraction/year	instructors	
final sociability	2.2	contact/person/month	networking	
fraction contacts fruitful	1	person/contact	networking	

Variables	Value	Units	Module	Comments
initial sociability	2	Contact /person/month	networking	
normal rate of networking conversion	0.078	Fraction	networking	
time social network introduced	105	month	networking	
average participants per session	15	person/session	Participants	This is turned off. A table based on historical data is used and held to a constant 23 after month 72.
courses per new participant	1	course	Participants	Because they are new
fraction total population that might use methodology	0.6	Dmnl	Participants	Not all are interested
session switch	0	Dmnl	Participants	Changes from constant sessions per month to historical values
time to decide to quit	18	month	Participants	Participants quitting after taking just one course
time to leave	50	month	Participants	Perhaps leaving company
time to take another course	5	month	Participants	
total population	96000	person	Participants	
initial CVA leads	1	person	Staff	
fraction of admin support	0.5	Dmnl	Staff	Fraction of admin staff support – 0.5 means half time
gain support staff	0	person/month	Staff	Inflow to support staff
initial admin support	1	person	Staff	
lose CVA lead	0	person/month	Staff	
lose support staff	0	person/month	Staff	Outflow of support staff
time to add another CVA lead person	36	month	Staff	Year 2008
time to add another admin support person	200	month	Staff	Basically turned off since model runs to month 120
course develop priority	0.25	Dmnl	Time Management	
Ad Priority	0.25	Dmnl	Time Management	

Variables	Value	Units	Module	Comments
Course Update Priority	0.25	Dmnl	Time management	
admin time needed per session	4	hour/session	Time Management	
Instructor Training Priority	0.25	Dmnl	Time Management	
"Mandatory time for schedule-advertising"	6	hour/month	Time Management	
max admin support time per month	147	hour/(month* person)	Time Management	
normal CVA working hours per month	91	hour/(month* person)	Time Management	
Other Admin time needed	6	hour/month	Time Management	
sensitivity of negative publicity effect	1	Dmnl	Time Management	

2. Staff and CVA Lead Time Allocation

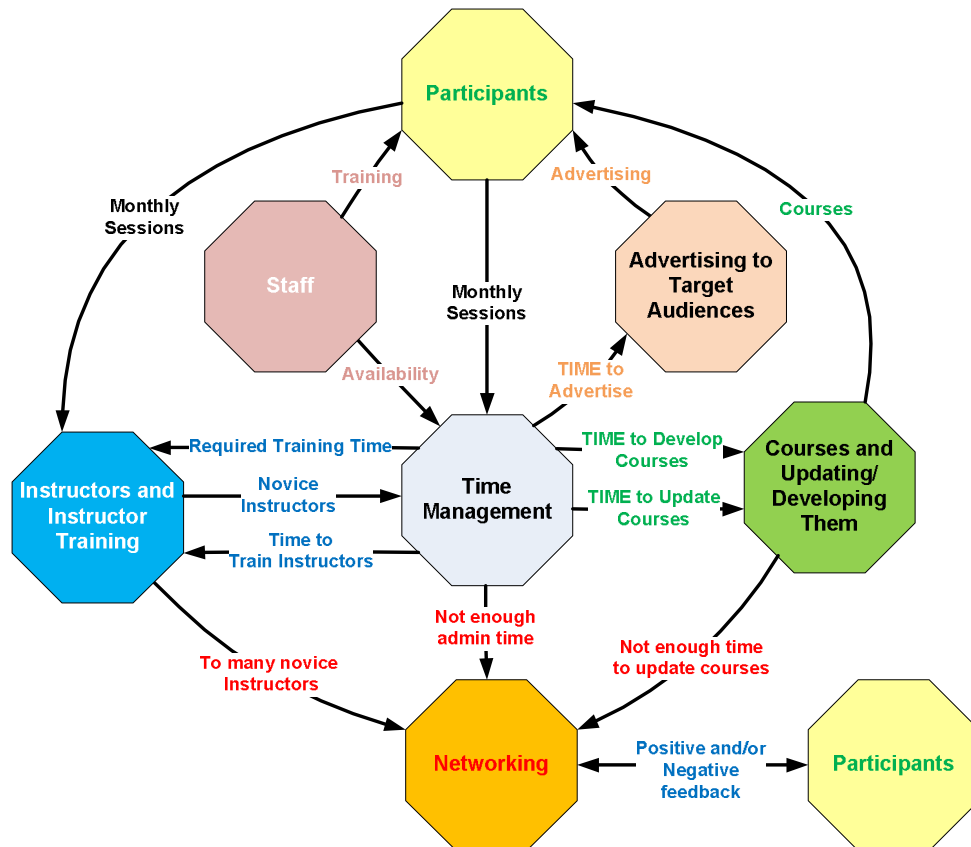
This session lists the basis for time parameter values for administrative staff and CVA Leads. An administrative staff only does administrative work and not training, advertising to target audiences, or creating or updating courses. A CVA Lead can do it all, including administration. The following table is a list of current time constants.

TIME	Value	UNITS	Comments
AVAILABLE TIME			
	weeks		
Total	52		
vacation	-4		
holiday	-2		
Other leave	-2		
	44	week/year	
	147	Hour /(month*person)	$147 = 44 * 40 / 12 = \text{hour/month}$
Time available for admin support staff	147	Hour /(month*person)	Baseline Support staff is half time so this is multiplied by 0.5
Non-CVA Activities for CVA Leads	56	Hour /(month*person)	Estimate from CVA Leads (8 hour/week, 18 hour/week, avg 13 hour/week) $(52/12) * 13 = 56$
Normal CVA working hours per month	91	Hour /(month*person)	time available for CVA leads = $147 - 56 = 91$
ADMIN TIME			
admin time per session	4	hour/(session*month)	Estimate
other admin time	6	hour/month	Estimate
ADVERTISING TIME			
Advertising to target audience	24	hour/month	Estimate from CVA leads (2 hour/week, 4 hour/week) total 24 hour/month
Mandatory time to schedule advertising	6	hour/month	Estimate from CVA Leads
TRAINING INSTRUCTORS			
hours needed to conduct instructor training	2	hour/(instructor*month)	Estimate

TIME	Value	UNITS	Comments
TRAINING PARTICIPANTS			
CVA lead time spent training participants	38	hour/month	Policy is to replace self with other trainers; however CVA leads like to train
CREATING/UPDATING TRAINING			
CVA time spent creating and updating training	20	(hour/month*person)	Time to update/create training per CVA Lead Estimate from CVA Leads (4 hour/week, 4 hour/week) = 17 hour/month

Appendix A. Model Modules

The following diagram, from the paper, illustrates the main modules in the model and their relationship to each other. The following section on baseline values lists variables by these modules.



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